

PRC Environmental Management, Inc.
233 North Michigan Avenue
Suite 1621
Chicago, IL 60601
312-856-8700
Fax 312-938-0118



**PRELIMINARY ASSESSMENT/
VISUAL SITE INSPECTION**

**FORD MOTOR COMPANY
LORAIN ASSEMBLY PLANT
LORAIN, OHIO
OHD 004 227 815**

FINAL REPORT

US EPA RECORDS CENTER REGION 5



432044

Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460**

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Prepared by	:	PRC Environmental Management, Inc. (Jeff Swano)
Contractor Project Manager	:	Shin Ahn
Telephone No.	:	(312) 856-8700
EPA Work Assignment Manager	:	Kevin Pierard
Telephone No.	:	(312) 886-4448

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RIN # 639-99

INITIALS K.P.

CONTENTS

<u>Section</u>	<u>Page</u>
EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION	1
2.0 FACILITY DESCRIPTION	4
2.1 FACILITY LOCATION	4
2.2 FACILITY OPERATIONS	4
2.3 WASTE GENERATION AND MANAGEMENT	8
2.4 HISTORY OF DOCUMENTED RELEASES	21
2.5 REGULATORY HISTORY	23
2.5.1 Regulatory Status	23
2.5.2 Inspection History	25
2.5.3 Permitting History	26
2.6 ENVIRONMENTAL SETTING	26
2.6.1 Climate	26
2.6.2 Flood Plain and Surface Water	28
2.6.3 Geology and Soils	29
2.6.4 Groundwater	29
2.7 RECEPTORS	30
3.0 SOLID WASTE MANAGEMENT UNITS	32
4.0 AREAS OF CONCERN	54
5.0 CONCLUSIONS AND RECOMMENDATIONS	55
REFERENCES	66

Appendix

- A VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS
- B VISUAL SITE INSPECTION FIELD NOTES

FIGURES

<u>Figure</u>	<u>Page</u>
1 FACILITY LOCATION	5
2 FACILITY LAYOUT	11

TABLES

<u>Table</u>	<u>Page</u>
1 SOLID WASTE MANAGEMENT UNITS	9
2 SOLID WASTES	12
3 UNDERGROUND STORAGE TANK INVENTORY	27
4 SWMU SUMMARY	64

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EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment and visual site inspection (PA/VSII) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Ford Motor Company, Lorain Assembly Plant (Ford) facility in Lorain, Lorain County, Ohio. This summary highlights the results of the PA/VSII and the potential for releases of hazardous wastes or hazardous constituents from SWMUs identified.

The Ford facility employs about 3,900 people and is used to assemble and paint automobiles, known as passenger vehicles, and to assemble small trucks, known as commercial vehicles. Manufacturing activities include assembling body shells, applying under- and over-coats of paint, assembling chassis and transmissions, attaching chassis to body shells, and final assembly along trim lines. Auxiliary operations at the facility that augment vehicle assembly include a paint kitchen, a maintenance shop, a wastewater treatment plant (WWTP) (SWMU 15), an empty drum handling area, a quality control laboratory, and a power house.

The manufacturing and auxiliary operations at the Ford facility generate numerous waste streams. Nonhazardous spent phosphate wash is generated from washing materials prior to painting. Corrosive waste (D002, D007) is generated from paint line cleaning. Paint wastes (D001, D005, D006, D007), nonhazardous electrocoat sludge, nonhazardous paint filters, and nonhazardous paint sludge are generated from painting operations. Spent solvents (F001, F002, F003, F005, D001, D007), are generated from painting, and trim line, and paint line cleaning. Nonhazardous waste windshield sealer and nonhazardous waste fluids are generated from trim line operations. Nonhazardous used oil is generated from trim lines, the Oil and Water Separator (SWMU 16) in the WWTP (SWMU 15), maintenance shop activities, and Outfall Interceptor Tanks (SWMU 18). Spent mineral spirits (D001) is generated in the maintenance shop. Waste gasoline (D001) is generated in the QC laboratory. Nonhazardous filter cake is generated in the WWTP (SWMU 15). Drummed residuals (D001 and nonhazardous), drum rinsate, and nonhazardous empty drums are generated from empty drum handling operations. Polychlorinated biphenyls (PCB) and asbestos are occasionally generated around the facility during facility maintenance and renovation projects. Nonhazardous flyash was generated from the facility's coal-fired power house. Used oil (D007, D008) and nonhazardous wastewater

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treatment sludge was generated in the facility's Former Lagoons (SWMU 8). Spent caustic (D002) was generated from skid cleaning activities.

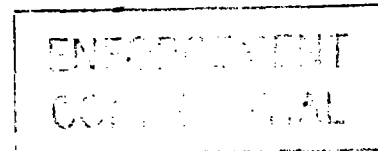
The Ford facility was built by Ford Motor Company in 1958 as an assembly plant. Operations have not changed since then except for technological and procedural changes. Assembly operations for both passenger and commercial vehicles follow an automated assembly line combining robotics and human labor to complete the assembly process. The facility's assembly building covers 3.8 million square feet of a 212-acre property in a rural and light manufacturing area.

In 1980, the facility submitted a Part A permit application indicating the following wastes: F001, F002, F003, F017, U151, U159, U220, U226, and U239 stored in a 4,000-gallon container storage unit (SWMU 3) (process code S01) and in an 8,000-gallon storage tank (SWMU 12) (S02). The Part A permit application also indicated Ford was a treatment, storage, or disposal facility for F018 waste in a 1,115,000-gallons-per-day storage and treatment surface impoundment (SWMU 8) (S04 and T02).

In 1981, Ford filed a delisting petition with EPA in order to change its RCRA status to generator only. Ford contended that the lagoon sludge was from a phosphating operation used in an industrial painting operation and was nonhazardous. EPA contended the sludge was from electroplating operations with the waste code F006. Ford underwent closure of the Former Lagoons (SWMU 8) in 1985. In 1988, EPA redefined the F006 waste code, and no longer classified the Former Lagoons (SWMU 8) as hazardous waste treatment units. The Former Spent Purge Solvent Tank (SWMU 12), which is the storage tank listed on the Part A permit application, is currently undergoing closure activities. Drum Storage Area No. 3 (SWMU 3), which is the drum storage area listed on the original Part A permit application, has never undergone RCRA closure because facility representatives assert wastes were never stored at the facility for greater than 90 days.

The PA/VSI identified the following 20 SWMUs at the facility:

1. Drum Storage Area No. 1
2. Drum Storage Area No. 2
3. Drum Storage Area No. 3
4. Satellite Accumulation Areas
5. Paint Sludge Pits



6. Former Sludge Tank
7. Former Sludge Dumpster
8. Former Lagoons
9. Former Lagoon Sludge Storage Area
10. Spent Purge Solvent Holding Tank
11. Paint and Solvent Waste Tank Farm
12. Former Spent Purge Solvent Tank
13. Former Waste Tank Farm
14. Used Oil Tanks
15. Wastewater Treatment Plant
16. Oil and Water Separator
17. Filter Cake Dumpster
18. Outfall Interceptor Tanks
19. Flyash Silo
20. PCB Drum Storage Area

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PRC did not observe any AOCs at the Ford facility. Past spills and releases had been adequately cleaned up or are currently being adequately addressed and pose no potential for future release.

The potential for a release to groundwater from the facility is low. Soils in the area are relatively impermeable and groundwater is not encountered until depths of over 100 feet. Groundwater is most likely not used as a drinking water source because the bedrock aquifers in the area produce low amounts of water. Current hazardous waste management units are constructed to contain spills and prevent releases to groundwater.

The potential for a release to surface water from the facility is moderate. Drum Storage Area No. 3 (SWMU 3) is currently used to store raw material product drums and empty product drums, and was formerly used to store drummed hazardous wastes. This SWMU slopes towards a stormwater sewer that discharges to one of five surface water outfalls. A current release from this unit would most likely flow into the stormwater sewer and affect surface water bodies. Some facility floor drains lead directly to three of the five surface water outfalls. These outfalls have Outfall Interceptor Tanks (SWMU 18), which are equipped with oil and water separators to prevent oil from discharging to surface water bodies. The tanks, installed in 1973, would not prevent water-soluble contaminants from discharging to surface water bodies. These tanks also posed a past potential release to surface water bodies.

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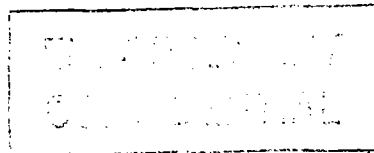
The potential for release to air is moderate because Drum Storage Area No. 1 (SWMU 1), Drum Storage Area No. 2 (SWMU 2), and Drum Storage Area No. 3 (SWMU 3) are all maintained outdoors. Volatile wastes and products are stored in these units. Any accidental spills at these units would result in a direct release to the air. During drum dumping activities at the Paint and Solvent Waste Tank Farm (SWMU 11), containers are emptied directly into a sump allowing fugitive emissions to release to the air. At the time of the VSI, PRC detected strong solvent odors at Drum Storage Area No. 1 (SWMU 1).

Several releases to subsurface soils have occurred at the Ford facility. In 1985, during closure activities at the Former Lagoons (SWMU 8), lead-contaminated subsurface soils were excavated and disposed of off site. In 1992, subsurface soil sampling in the area of the Former Spent Purge Solvent Tank (SWMU 12), which ceased operations in 1988 and was excavated in 1991, identified volatile organic compounds. At the time of the VSI, no remedial action had occurred at this unit, and the facility was working with the Ohio Environmental Protection Agency (OEPA) to develop a corrective action plan.

The primary source of drinking water in the vicinity of the facility is Lake Erie, the intakes of which are located about 3.25 miles east of the facility. Municipalities surrounding the facility all distribute water from Lake Erie. Groundwater is believed to be a source of drinking water for a few people, but the presence of private drinking water wells cannot be confirmed. Due to fine-grained, unconsolidated glacial deposits, groundwater is not available in quantity at depths of at least 100 feet below ground surface. Based on available information, shallow aquifers cannot be confirmed to exist in the vicinity of the facility. Dry wells have been drilled into the bedrock, which consists of shale material. The nearest residence is located about 0.25 mile west of the facility. The nearest school is located about 1.25 miles west of the facility. The entire facility is enclosed by a fence with security cameras and 24-hour security guards.

No sensitive environments exist at the facility or within a 3-mile radius of the facility. Endangered species listed for Lorain County include the Indiana bat riparian habitat.

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PRC recommends the following:

- Collecting surface and subsurface soils around the perimeter of Drum Storage Area No. 1 (SWMU 1) to verify whether hazardous constituents were released to on-site soils from this unit prior to 1985
- Constructing a barrier between Drum Storage Area No. 3 (SWMU 3) and the stormwater sewer located west of it
- Storing empty drums in SWMU 3 with bungs closed
- Collecting surface soil samples around the east and north sides of SWMU 3 to determine if a release of hazardous constituents has occurred
- Continuing with corrective action activities planned for the Former Spent Purge Solvent Tank (SWMU 12)
- Collecting subsurface soil samples from the Former Waste Tank Farm (SWMU 13) to determine if a release of hazardous constituents has occurred

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has usually exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading or unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release of hazardous waste or constituents to the environment has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where a strong possibility exists that such a release might occur in the future.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases

The VSI includes interviewing appropriate facility staff; inspecting the entire facility to identify all SWMUs and AOCs; photographing all visible SWMUs; identifying evidence of releases; making a preliminary selection of potential sampling parameters and locations, if needed; and obtaining additional information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Ford Motor Company, Lorain Assembly Plant (Ford) facility (EPA Identification No. OHD 004 227 815) in Lorain, Lorain County, Ohio. The PA

was completed on August 4, 1993. PRC gathered and reviewed information from the Ohio Environmental Protection Agency (OEPA), the Ohio Department of Natural Resources (ODNR), U.S. Department of Commerce (USDC), U.S. Department of Agriculture (USDA), the U.S. Department of the Interior (USDI), the U.S. Geological Survey (USGS), the Federal Emergency Management Agency (FEMA), and from EPA Region 5 RCRA files. The VSI was conducted on August 19, 1993. It included interviews with facility representatives and a walk-through inspection of the facility. PRC identified 20 SWMUs and no AOCs at the facility.

The VSI is summarized and 25 of the 27 inspection photographs are included in Appendix A. The photographs have been renumbered; thus, their numbers differ from the photograph numbers in the VSI field notes, which are included in Appendix B.

2.0 FACILITY DESCRIPTION

This section describes the facility's location; past and present operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors.

2.1 FACILITY LOCATION

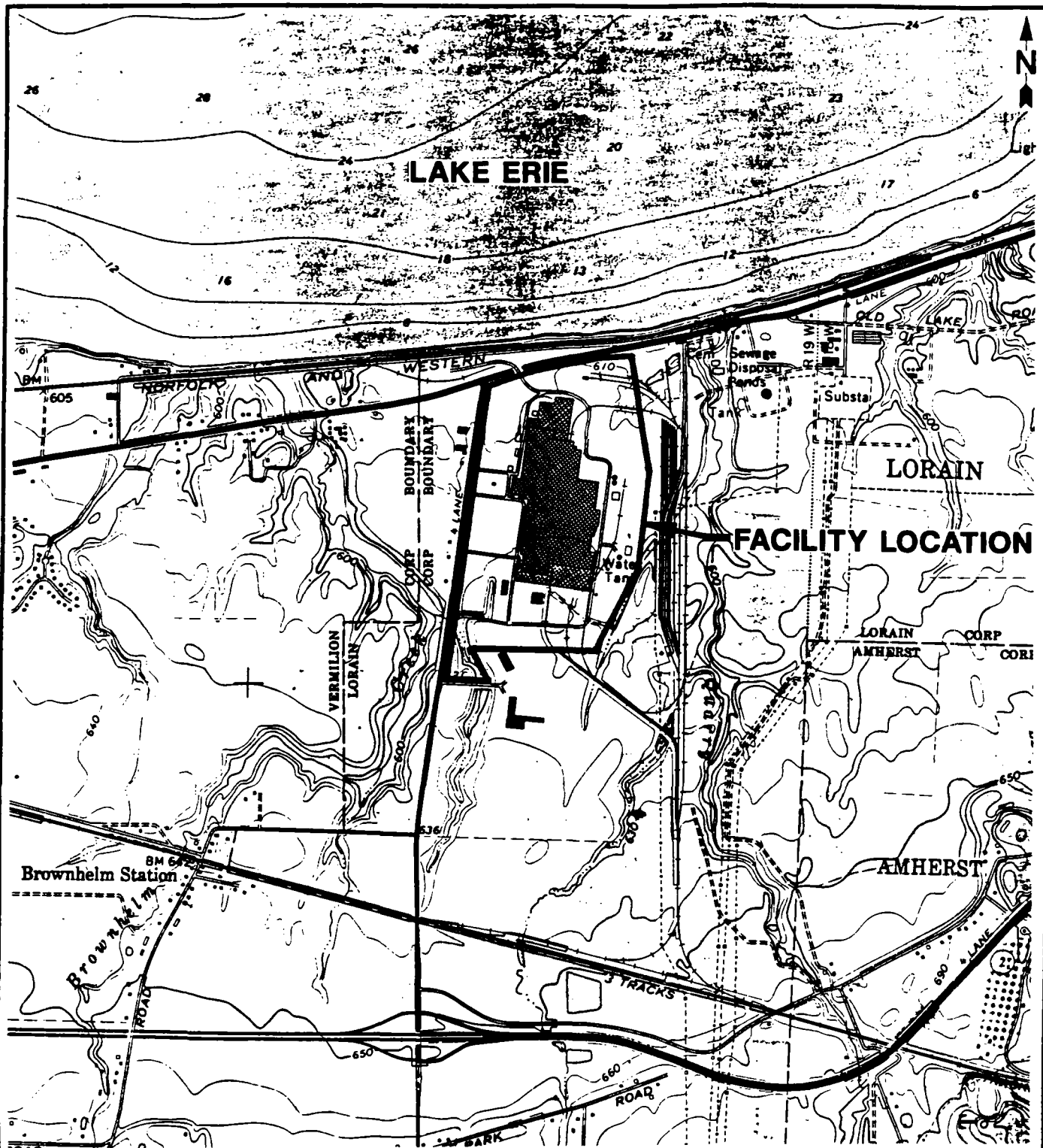
The 212-acre Ford facility is located at 5401 Baumhart Road in Lorain, Lorain County, Ohio.

Figure 1 shows the location of the facility in relation to the surrounding topographic features (latitude 41°25'20"N and longitude 82°16'30"W). Facility buildings cover about 3.8 million square feet of the facility property, which is located in a rural and light manufacturing area.

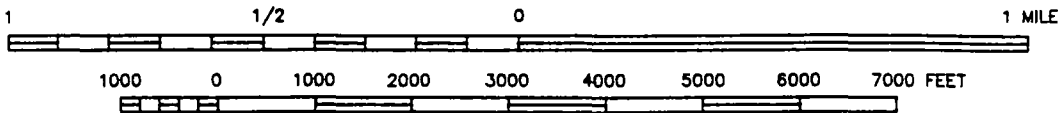
The facility is bordered on the north by State Route 6 and Lake Erie; on the west by Baumhart Road, woods, and farmland; on the south by woods and light manufacturing facilities; and on the east by woods and a railroad yard.

2.2 FACILITY OPERATIONS

The Ford facility currently assembles and paints automobiles and assembles small trucks. Ford distinguishes between automobile and truck operations and refers to them as passenger and commercial, respectively. Passenger operations include the following activities: assemble body shells, apply under- and over- coats of paint, assemble chassis to body shells, and assemble final automobile on trim lines. Commercial operations include the following: assemble chassis and transmissions, and attach assembled chassis to body shells, assemble final truck on trim lines. For the 1992 and 1993 model years, passenger operations assembled Ford Thunderbird and Cougar models, and commercial operations assembled Ford Econoline and Club Wagon models. Ford conducts the following auxiliary operations at the facility to augment vehicle assembly: a paint kitchen, a maintenance shop, a Wastewater Treatment Plant (WWTP) (SWMU 15), an empty drum handling area, a quality control (QC) laboratory, and a powerhouse.



SCALE 1:24000



SCALE: 1" = 2,000'



QUADRANGLE LOCATION

FORD MOTOR COMPANY
LORAIN ASSEMBLY PLANT
LORAIN, OHIO

FIGURE 1

FACILITY LOCATION

PRC ENVIRONMENTAL MANAGEMENT, INC.

Ford Motor Company built the facility in 1958 as an assembly plant. Operations have not changed significantly since then, except for technological advancements and procedural changes. Assembly operations for both passenger and commercial vehicles follow an automated assembly line that combines robotics and human labor to complete the assembly process. Passenger and commercial operations are discussed below, followed by brief descriptions of auxiliary operations.

Raw materials for all production activities include the following: automobile parts, truck parts, paints, sealers, transmission fluids, gasoline, antifreeze, oil, and freon. Raw materials delivered in drums are stored in an outdoor raw material drum storage area located at the south end of Drum Storage Area No. 3 (SWMU 3). Raw materials delivered in bulk tanker trucks are stored in either aboveground or underground storage tanks (UST). All body parts are delivered in trucks from other Ford facilities.

Passenger assembly operations begin with stamped body parts, such as quarter panels, hoods, and trunks, on one assembly line and stamped chassis parts on another. Stamped body parts are assembled together to create a body shell. The body shells are cleaned in a phosphate wash prior to painting. An undercoat of electrically charged paint, known as electrocoat primer, is applied by submerging the body shell into the primer. Painted body shells units are dried in an oven. Dry shells are sent to a sealing line where cavities are sealed with a silicate sealer and then dried in another oven. Sealed shells are sent to the overcoat painting operation. A primer coat is spray-painted on and dried in an oven. The final overcoat, known as the topcoat, is also spray-painted on and dried in an oven.

Painted body shells are sent to the trim lines, where the automobile assembly process is completed. At the trim lines, body shells are attached to the chassis, the transmission and windows are installed, the interior trim and electrical wiring is installed, fluids are added, and wheels are attached. After the finished automobile comes off the assembly line, each vehicle is tested, washed, inspected, and stored outside of the northwest side of the facility.

In commercial operations, chassis and transmissions are assembled together and attached to body shells that are assembled and painted at other Ford facilities. The vehicles then follow the same process along the trim lines as the passenger vehicles.

Auxiliary operations at the facility that augment vehicle assembly include the following: a paint kitchen, a maintenance shop, a WWTP (SWMU 15), an empty drum handling area, a QC laboratory, and a powerhouse. In the paint kitchen, raw material paints are stored or mixed in 80- and 250-gallon tanks. Some tanks are connected by piping to the topcoat spray-painting booth. Other paints are mixed in the paint kitchen and are directly piped to paint booths.

The maintenance shop is operated for upkeep of facility fork lifts, tow motors, and assembly line motors. Basic operations consist of a service area that repairs engines and motors, changes oil and fluids, and washes parts.

The facility began operating its WWTP (SWMU 15), located in a separate building east of the assembly building, in about 1971. At that time, the WWTP was used to pretreat wastewaters before further treatment in the Former Lagoons (SWMU 8). Because of personnel changes at the facility, no further information is available on WWTP (SWMU 15) operations prior to 1984. The WWTP was upgraded in 1984 to provide complete wastewater treatment. Not all facility floor drains lead to the WWTP, but all floor drains in production areas do. The WWTP treats nonhazardous soaps, boiler blowdown, spent phosphate wash, and drum rinsate. Prior to treatment, solids are filtered out, and oil is skimmed off. Wastewaters are treated in one of three 160,000-gallon batch tanks. The facility treats about 4 to 6 batches per day. Treated water is discharged to the facility sanitary sewers, which lead to the Lorain publicly owned treatment works (POTW).

The facility's empty drum handling operation is located at the east end of Drum Storage Area No. 2 (SWMU 2). It is used to prepare empty product drums for off-site reconditioning. An empty drum is labeled "empty" and dated, taken to the empty drum handling area, and inverted to allow residual product to drain into another 55-gallon drum. If the product drum contained nonhazardous solid materials, such as soap or sealers, the drums is rinsed and drained. Rinse water is treated in the facility WWTP (SWMU 15). If the empty product drum contained hazardous materials, such as xylene, drums are sealed after being drained into another drum and no rinsing operations are conducted. Full nonhazardous drummed residuals are stored in Drum Storage Area No. 2 (SWMU 2) prior to off-site disposal. Full hazardous drummed residuals (D001) are stored in Drum Storage Area No. 1 (SWMU 1) prior to off-site recycling.

The facility's QC laboratory is used to test samples of fuels before the fuel is dispensed into finished vehicles. This laboratory has operated since 1958 in a separate building located southwest of the assembly building.

From 1958 to September 1993, the facility operated a coal-fired powerhouse located south of the WWTP (SWMU 15). Coal was transported to the facility by rail and stored outside of the powerhouse. The facility operated the powerhouse to generate steam and compressed air. In September 1993, the boilers were converted to be fueled by natural gas.

The facility controls weeds by applying herbicides around fences, railroad spurs, and other areas. The facility has been applying herbicides since before 1986. In addition, the facility has used Clean Crop Mec Arnine-D[®], a phenoxy herbicide, since before 1986.

Solid wastes generated from facility operations and the SWMUs where they are managed are discussed in detail in Section 2.3.

2.3 WASTE GENERATION AND MANAGEMENT

This section describes waste generation and management at the Ford facility. The facility's SWMUs are identified in Table 1. The facility layout, including SWMUs, is shown in Figure 2. The facility's waste streams are summarized in Table 2. Waste streams mentioned in Section 2.4 are discussed below in the order they are listed in Table 2.

Nonhazardous spent phosphate wash is generated from metal washing operations prior to painting. The facility currently generates about 70,000 to 100,000 gallons of spent phosphate wash per day. Since 1984, spent phosphate wash has been treated in the facility's WWTP (SWMU 15). Between

TABLE 1
SOLID WASTE MANAGEMENT UNITS

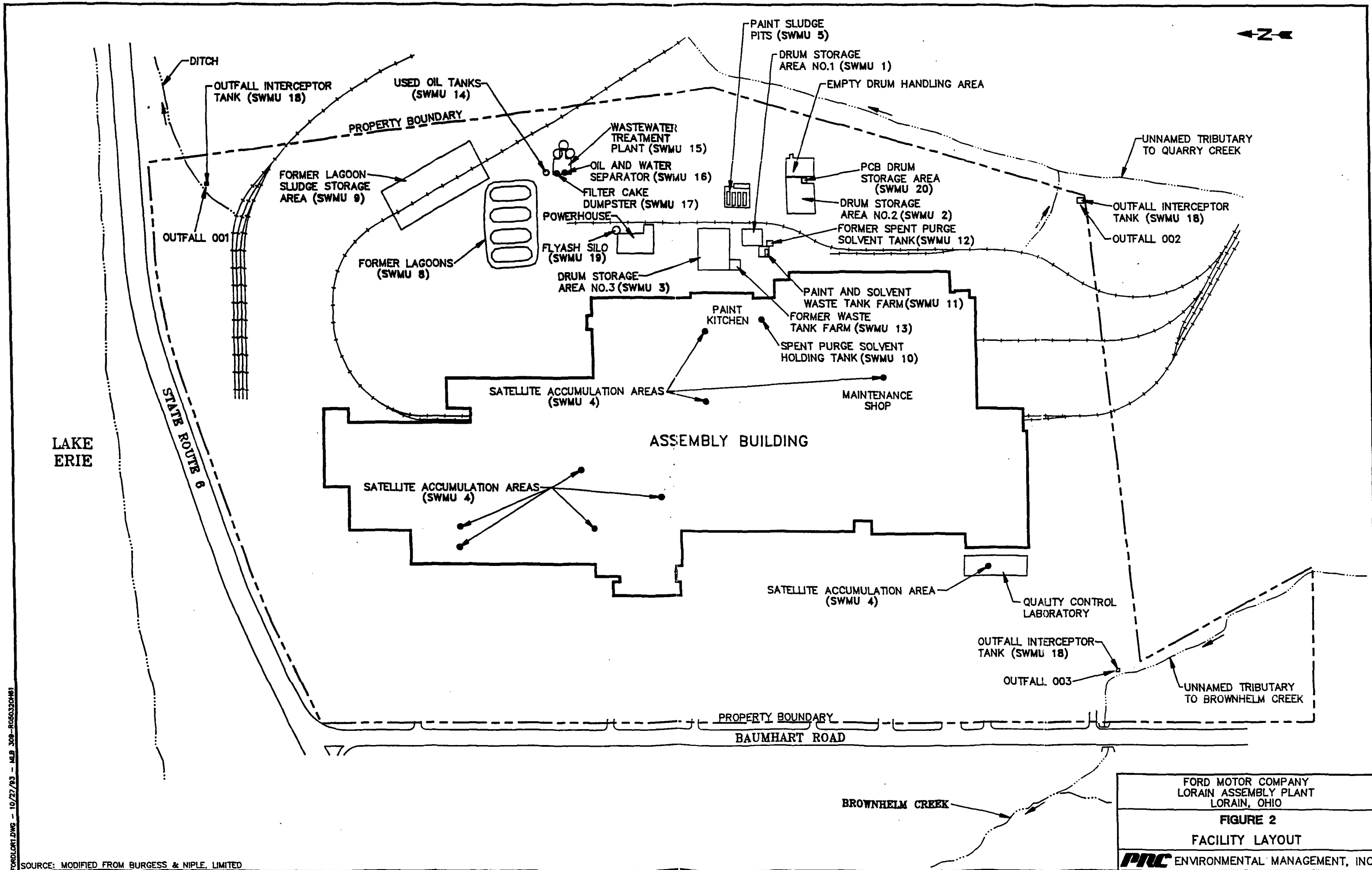
<u>SWMU Number</u>	<u>SWMU Name</u>	<u>RCRA Hazardous Waste Management Unit^a</u>	<u>Status</u>
1	Drum Storage Area No. 1	No	Active; less than 90-day storage of hazardous waste
2	Drum Storage Area No. 2	No	Active; less than 90-day storage of hazardous waste
3	Drum Storage Area No. 3	Yes	Active; storage of empty and raw material drums; never RCRA-closed
4	Satellite Accumulation Areas	No	Active; accumulation of hazardous wastes
5	Paint Sludge Pits	No	Active; storage of nonhazardous paint sludge
6	Former Sludge Tank	No	Inactive; ceased being used in 1982
7	Former Sludge Dumpster	No	Inactive; ceased being used in 1982
8	Former Lagoons	Yes	Inactive since 1985; completed closure activities in 1986; redefined waste code in 1988 made this a non-RCRA unit
9	Former Lagoon Sludge Storage Area	No	Inactive; ceased being used in 1985
10	Spent Purge Solvent Holding Tank	No	Active; accumulation of hazardous waste
11	Paint and Solvent Waste Tank Farm	No	Active; less than 90-day storage of hazardous waste
12	Former Spent Purge Solvent Tank	Yes	Inactive; undergoing RCRA closure

TABLE 1 (Continued)
SOLID WASTE MANAGEMENT UNITS

<u>SWMU Number</u>	<u>SWMU Name</u>	<u>RCRA Hazardous Waste Management Unit^a</u>	<u>Status</u>
13	Former Waste Tank Farm	No	Inactive; ceased being used in 1989
14	Used Oil Tanks	No	Active; storage of nonhazardous used oil
15	Wastewater Treatment Plant	No	Active; treatment of facility wastewaters
16	Oil and Water Separator	No	Active; accumulation of nonhazardous used oil
17	Filter Cake Dumpster	No	Active; storage of nonhazardous filter cake
18	Outfall Interceptor Tanks	No	Active; storage of nonhazardous used oil
19	Flyash Silo	No	Inactive; ceased being used in September 1993
20	PCB Drum Storage Area	No	Active; storage of PCB wastes

Note:

^a A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.



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SOURCE: MODIFIED FROM BURGESS & NIPLE, LIMITED

FORD MOTOR COMPANY
LORAIN ASSEMBLY PLANT
LORAIN, OHIO

FIGURE 2
FACILITY LAYOUT

PNC ENVIRONMENTAL MANAGEMENT, INC.

TABLE 2
SOLID WASTES

<u>Waste/EPA Waste Code^a</u>	<u>Source</u>	<u>Solid Waste Management Unit</u>
Spent phosphate wash/NA	Prepaint washing	8, 15
Corrosive waste/D002 and D007	Paint line cleaning	11
Paint wastes/D001, D005, D006, and D007	Painting	1, 2, 4, 11, 13
Electrocoat sludge/NA	Painting	2
Paint filters/NA	Painting	2
Paint sludge/NA	Painting	5, 6, 7
Spent solvents/F001, F002, F003, F005, F017, D001, D007, and U159	Painting, trim lines, paint line cleaning	1, 2, 3, 4, 10, 11, 12, 13
Waste windshield sealer/NA	Trim lines	2, 4
Waste fluids/NA	Trim lines	1, 4
Nonhazardous used oil/NA	Trim lines, maintenance shop, WWTP, outfalls	1, 2, 14, 16, 18
Spent mineral spirits/D001	Maintenance shop	1, 4
Waste gasoline/D001	QC laboratory	1, 4
Filter cake/NA	WWTP	17
Drummed residuals/D001, nonhazardous	Empty drum handling	1, 2
Drum rinsate/NA	Empty drum handling	15
Empty drums/NA	Empty drum handling	2, 3
PCBs/NA	Facility maintenance	20
Asbestos/NA	Facility maintenance	2

TABLE 2 (Continued)

SOLID WASTES

<u>Waste/EPA Waste Code^a</u>	<u>Source</u>	<u>Solid Waste Management Unit</u>
Flyash/NA	Powerhouse	19
Used oil/D007 and D008	Former Lagoons	2, 3, 8, 14
Wastewater treatment sludge/NA	Former Lagoons	8, 9
Spent caustic/D002	Skid cleaning	None
Wastewaters/NA	Various Sources	15

Note:

^a Not applicable (NA) designates nonhazardous waste.

1971 and 1984, the waste was pretreated in the WWTP and then in the Former Lagoons (SWMU 8) to allow for the continuous settling of solids, which is discussed below. Treated wastewaters were discharged to the sanitary sewers, which flow to the local POTW.

Painting line cleaning occasionally generates corrosive waste (D002, D007). Corrosive wastes are piped from the painting lines directly to the paint and solvent wastes tank of the Paint and Solvent Waste Tank Farm (SWMU 11). In 1991, about 3,000 gallons of corrosive waste (D002, D007) and spent cleaning solvents (F003, F005) were generated from painting line cleaning (Ford 1992a). Clean Harbors, Inc., of Braintree, Massachusetts, transports the corrosive waste and spent cleaning solvents (F003, F005) to its Braintree, Massachusetts, wastewater treatment facility. In 1992 and 1993, no corrosive wastes were generated at the facility.

Paint wastes (D001, D005, D006, D007), nonhazardous electrocoat sludge, nonhazardous paint filters, and nonhazardous paint sludge are generated from painting activities. Since 1958, paint wastes have been generated in several areas throughout the facility. The facility currently generates about five 55-gallon drums of paint wastes per week from painting operations. In addition, the facility currently generates about 40 55-gallon drums of off-specification paint wastes per week in the paint kitchen. Some paint wastes are accumulated in SAAs (SWMU 4) at the point of generation. Since 1990, full drums of paint wastes have either been stored in Drum Storage Area No. 1 (SWMU 1), Drum Storage Area No. 2 (SWMU 2), or poured into a tank at the Paint and Solvent Waste Tank Farm (SWMU 11). Between 1958 and 1989 some drummed paint wastes were poured into the Former Waste Tank Farm (SWMU 13). Since 1986, Petro-Chem Processing, Inc. (Petrochem), of Detroit, Michigan, has pumped out drums and paint waste tanks in the Paint and Solvent Waste Tank Farm (SWMU 11) and the Former Waste Tank Farm (SWMU 13) into a tanker truck. Petrochem transports the wastes to its fuel blending facility in Detroit, Michigan. No information is available on waste transportation or disposal prior to 1986. Empty drums are processed through the facility's empty drum handling operations, which are discussed below.

Prior to 1985, Drum Storage Area No. 1 (SWMU 1) was used as a waste staging pad. At this time, the unit measured about 45 feet by 120 feet and had an earthen berm. Waste staging activities included congregating all drummed liquid hazardous wastes. Wastes were then segregated, dated, and labeled by waste type and category. Wastes were either poured directly into the Former Spent Purge

Solvent Tank (SWMU 12) or stored at Drum Storage Area No. 3 (SWMU 3). Wastes were pumped directly from their containers into tanker trucks for off-site disposal. No specific disposal information is available. Empty drums were stored on racks at Drum Storage Area No. 3 (SWMU 3). Because of personnel changes at the facility, no further information is available on waste handling prior to 1985.

Nonhazardous electrocoat sludge is generated in the electrocoat primer paint tank. During annual cleaning of this tank, sludge is scooped out and placed in 55-gallon steel drums. Since the mid-1970s, about 20 drums have been generated annually. The drums are stored in Drum Storage Area No. 2 (SWMU 2). Evergreen Environmental Group, Inc. (Evergreen), has always transported the wastes to its Bedford Heights, Ohio, facility for solidification and disposal.

Nonhazardous paint filters are generated in the electrocoat primer paint tank. Since the mid-1970s, filters have been changed once every 2 to 3 weeks. The facility currently generates about 12 55-gallon drums at each changing. Dirty filters are placed in 55-gallon steel drums and stored in Drum Storage Area No. 2 (SWMU 2). Evergreen has always transported the wastes to its Bedford Heights, Ohio, facility for disposal.

Since 1966, nonhazardous latex paint sludge has been generated from topcoat paint booths. Water circulates under the grate floor of the paint booth. A forced downdraft in the booth causes any airborne paint to be caught in the water. A nonhazardous additive is added to the water to make the paint less tacky. A flocculent is also added to the water to encourage the paint to precipitate out of the water. The resulting sludge collects at the bottom of the Paint Sludge Pits (SWMU 5), and the water is recirculated to the paint booth. The sludge has been collected in the Paint Sludge Pits since 1982. The facility currently generates about 250 cubic yards of nonhazardous paint sludge per year. Since 1991, Cousins, Inc. (Cousins), of Toledo, Ohio, has pumped the sludge from the Paint Sludge Pits into either a tanker truck or a covered dump truck. Cousins transports the sludge to the Wayne Disposal, Inc. (Wayne), facility in Belleville, Michigan, for solidification. Wayne then transports the wastes to the Ford Allen Park Clay Mine Landfill (FAP Landfill) in Allen Park, Michigan, for disposal. Between 1982 and 1991, the sludge was transported to the Wayne facility for solidification by various transporters selected through bids; the sludge was ultimately disposed of at the FAP Landfill.

Between 1966 and 1982, water from paint booths was circulated to the Former Sludge Tank (SWMU 6) located in the basement of the southwest corner of the assembly building. Sludge was removed from this tank on a continual basis via a conveyor into the Former Sludge Dumpster (SWMU 7). Once this plastic-lined dumpster was full, it was transported to the Wayne facility and replaced with an empty dumpster. No further information is available on waste transportation or disposal prior to 1982.

A variety of spent solvents (F001, F002, F003, F005, D001, D007) are generated from painting, trim lines, and painting line cleaning activities. Spent solvents generated from painting line cleaning activities were discussed earlier. Purge solvent (D001) is the largest volume of spent solvents generated from painting activities at the facility. Since 1968, purge solvent (D001) has been used to clean out painting lines between color changes. The facility currently generates about 6,000 gallons of purge solvent (D001) every 1.5 months.

Since 1981, spent purge solvent (D001) has been accumulated in the Spent Purge Solvent Holding Tank (SWMU 10). Since 1990, the waste has been piped from the full Spent Purge Solvent Holding Tank to the solvent tank in the Paint and Solvent Waste Tank Farm (SWMU 11). Between 1968 and 1990, the full Spent Purge Solvent Holding Tank (SWMU 10) was piped directly to the Former Spent Purge Solvent Tank (SWMU 12). Since 1986, Gage Products, Inc. (Gage), of Birmingham, Michigan, has pumped wastes directly from the tanks into a tanker truck. Gage transports the wastes to its Birmingham, Michigan, facility to recycle the spent purge solvent. Since 1986, Petrochem has pumped out the paint and solvent wastes tank in SWMU 11 into a tanker truck for transport to its fuel blending facility in Detroit, Michigan. No information is available on spent purge solvent (D001) transportation and disposal prior to 1986.

Spent solvents (F001, F002, F003, F005, D001, D007) generated at the trim lines are handled in the following manner. The facility currently generates about two 55-gallon steel drums of spent solvents from trim lines every 3 months. The wastes are collected in SAAs (SWMU 4) at the point of generation. Since 1990, full drums of wastes are either stored in Drum Storage Area No. 1 (SWMU 1) or emptied into the paint and solvent wastes tank in the Paint and Solvent Waste Tank Farm (SWMU 11). Between 1958 and 1989, full drums of wastes were either stored in Drum Storage Area No. 1 (SWMU 1), Drum Storage Area No. 3 (SWMU 3) or emptied into the solvent

tanks of the Former Waste Tank Farm (SWMU 13). Since 1988, ENSCO, Inc. (ENSCO), of El Dorado, Arkansas, has transported some of the wastes, either in drums or in bulk, to its incinerator in Little Rock, Arkansas. Between 1988 and 1990, Drury Brothers, Inc., transported some wastes, either in drums or in bulk, to the Petrochem fuel blending facility in Detroit, Michigan. No further information is available on waste transportation or disposal prior to 1988.

Waste windshield sealer has been generated from trim lines since 1988. The sealer consists on an adhesive urethane applied with a gun to seal windshields to the vehicle. The lines are occasionally purged with air to prevent the sealer from solidifying in the guns. The facility currently generates about 65 55-gallon steel drums of waste windshield sealer every 3 weeks. Nonhazardous waste windshield sealer is sprayed into an SAA (SWMU 4) at the point of generation. Full drums are stored in Drum Storage Area No. 2 (SWMU 2). Evergreen has always transported the wastes to its Bedford Heights, Ohio, facility for disposal.

Automotive fluids have been used at the facility since 1958 and include transmission fluid, antifreeze, and brake fluid. Nonhazardous waste fluids are generated at the end of the trim lines if the vehicle requires further work and fluids must be emptied from the vehicle. The facility currently generates about two 55-gallon steel drums of waste fluids every 3 months. Waste fluids are poured into an SAA (SWMU 4) at the point of generation. Full drums are stored in Drum Storage Area No. 1 (SWMU 1). Evergreen has always transported the wastes to its Bedford Heights, Ohio, facility for solidification and disposal.

Nonhazardous used oil has been generated at the trim lines, maintenance shop, Oil and Water Separator (SWMU 16), and the Outfall Interceptor Tanks (SWMU 18). The facility currently generates about one 55-gallon drum of nonhazardous used oil from the trim lines every 3 to 4 months. Used oil is accumulated in an SAA (SWMU 4) at the point of generation. Full drums are stored in Drum Storage Area No. 1 (SWMU 1). The used oil is tested by Evergreen to confirm its nonhazardous status. Evergreen has always pumped the waste from the drums into tanker trucks and transported the waste to its Bedford Heights, Ohio, facility for recycling.

Since 1958, the maintenance shop has changed the oil in heavy machinery and equipment during routine equipment maintenance. The facility currently generates two 55-gallon drums of used oil

from maintenance activities each month. Used oil is accumulated in an SAA (SWMU 4) in the maintenance shop. Full drums are stored in Drum Storage Area No. 1 (SWMU 1) or poured into one of the Used Oil Tanks (SWMU 14). Evergreen directly pumps the waste from the containers into a tanker truck. Evergreen has always transported the wastes to its Bedford Heights, Ohio, facility for recycling.

Since 1984, nonhazardous used oil has been generated from the Oil and Water Separator (SWMU 16) located in the WWTP (SWMU 15). The wastewaters treated by the WWTP include spent phosphate wash, boiler blowdown, empty drum rinse water, vehicle wash water, floor wash water, and some facility floor drains. Wastewaters are first filtered to remove solids, then skimmed by the Oil and Water Separator (SWMU 16) to remove any oil, and then treated in the WWTP. Nonhazardous used oil is stored in the Used Oil Tanks (SWMU 14). The WWTP currently generates about 3,000 gallons of nonhazardous used oil every 3 months. Since 1984, Evergreen has pumped used oil from the Used Oil Tanks into a tanker truck and transported the waste to its Bedford Heights, Ohio, facility for recycling.

Floor drains that are not directed to the WWTP (SWMU 15) lead to outfalls 001, 002, and 003. These outfalls are equipped with Outfall Interceptor Tanks (SWMU 18). After oil and water is separated in the tanks, oil remains in the Outfall Interceptor Tanks, and the water is discharged. Less than 100 gallons of used oil is generated in this way each year. Since about 1973, Evergreen has pumped used oil from the Outfall Interceptor Tanks into a tanker truck and transported the waste to its Bedford Heights, Ohio, facility for recycling. Prior to 1973, the outfalls did not have interceptor tanks.

Spent mineral spirits (D001) is generated at the maintenance shop. The maintenance shop has generated spent mineral spirits since 1990 in parts washers during equipment maintenance. The facility currently generates about three 55-gallon drums of this waste each year. Spent mineral spirits is accumulated in an SAA (SWMU 4) located in the maintenance shop. Full drums are stored in Drum Storage Area No. 1 (SWMU 1). Petrochem pumps the wastes into a tanker truck and transports the waste to its fuel blending facility in Detroit, Michigan.

Since 1958, waste gasoline (D001) has been generated from testing fuels in the QC laboratory prior to fueling finished vehicles. The facility currently generates about 55 gallons of waste gasoline every 3 months. Waste gasoline is accumulated in an SAA (SWMU 4) located in the QC laboratory. Full drums are stored in Drum Storage Area No. 1 (SWMU 1). Since before 1986, Petrochem has pumped the wastes into tanker trucks and transported them to its fuel blending facility in Detroit, Michigan. No further information is available on waste gasoline storage, transportation, or disposal prior to 1986.

Since 1984, nonhazardous filter cake has been generated at the WWTP (SWMU 15). Wastewaters treated by the WWTP include spent phosphate wash, boiler blowdown, empty drum rinse water, vehicle wash water, floor wash water, and some facility floor drains. Solids are filtered out of the wastewater stream prior to treatment. A filter press is used to dewater collected solids.

Nonhazardous filter cake, generated from the filter press, is accumulated and stored in the plastic-lined Filter Cake Dumpster (SWMU 17). The facility currently generates about 20 cubic yards of filter cake every week. Between 1984 and 1992, Wayne transported the dumpster of waste to its facility in Belleville, Michigan, for disposal. Since 1992, Wayne has transported dumpsters of waste to the FAP Landfill in Allen Park, Michigan, for landfilling.

The empty drum handling operations generate drummed residuals (D001 and nonhazardous), drum rinsate, and nonhazardous empty drums. Hazardous drummed residuals (D001) are stored in Drum Storage Area No. 1 (SWMU 1). Nonhazardous drummed residuals are stored in Drum Storage Area No. 2 (SWMU 2). Since 1986, Petrochem has transported drummed residuals (D001) to its fuel blending facility in Detroit, Michigan. No information is available on waste transportation or disposal prior to 1986. Only nonhazardous raw material drums are rinsed if necessary. Drum rinsate flows into an industrial sewer that leads to the WWTP (SWMU 15) for treatment. All empty product drums are stored at the southeast end of Drum Storage Area No. 2 (SWMU 2). Columbus Steel Drum Company of Columbus, Ohio, transports the empty product drums off site to their drum reconditioning facility in Columbus, Ohio.

General maintenance around the facility occasionally generates PCB wastes and asbestos. The lights inside the facility contain PCBs in their ballast. Ford began replacing lights in the mid-1980s. Since then, about 10 to 20 55-gallon steel drums of ballast have been generated annually. Full drums of

ballast are stored in the PCB Drum Storage Area (SWMU 20). Since 1991, Chemical Waste Management, Inc., has transported the waste to its landfill in Emelle, Alabama. Between 1989 and 1991, ENSCO transported the waste to its incinerator in Little Rock, Arkansas. No information is available on disposal prior to 1989. Asbestos is generated during major renovation projects at the facility. About 20 30-gallon drums of asbestos are generated annually. Asbestos is accumulated in 30-gallon fiber drums and stored in Drum Storage Area No. 2 (SWMU 2). Waste is transported to the FAP landfill by the lowest bidder.

Between 1958 and September 1993, the powerhouse generated nonhazardous flyash from its coal-fired boilers. The facility generated about 10 cubic yards of flyash every month. Flyash is collected in hoppers located below the boilers. A vacuum system transfers flyash from the hoppers to the Flyash Silo (SWMU 19). On a monthly basis, Browning Ferris Industries, Inc. (BFI), transported the flyash to its Oberline, Ohio, landfill. BFI has tested the flyash and determined it to be nonhazardous. The powerhouse switched to natural-gas-fired boilers in September 1993.

Between 1957 and 1971, prior to the construction of the WWTP (SWMU 15), facility wastewaters were treated the Former Lagoons (SWMU 8). In 1971, the WWTP (SWMU 15) was constructed for pretreatment of wastewaters, but the Former Lagoons (SWMU 8) were still used for settling of solids. The Former Lagoons consisted of four earthen surface impoundments and generated used oil (D007, D008) and nonhazardous wastewater treatment sludge. In 1981, the facility tested the oil skimmed from the lagoons and found that it was extraction procedure (EP) toxic for chromium and lead. Oil was continuously skimmed from the surface of the lagoons and stored in either the Used Oil Tanks (SWMU 14) or placed in drums and stored in either Drum Storage Area No. 2 (SWMU 2) or Drum Storage Area No. 3 (SWMU 3). Used oil (D007, D008) was pumped directly from the tanks or drums into tanker trucks for off-site recycling. No information is available on the volume of used oil (D007, D008) generated in this manner or on the specific transportation of the waste.

Typically, wastewater treatment sludge was removed from the lagoons and placed in the Former Lagoon Sludge Storage Area (SWMU 9). The sludge was sampled for EP toxicity in 1979 and was found to be nonhazardous. About 533,000 gallons of treatment sludge was generated annually. Wayne transported the wastes off site to its Belleville, Michigan, facility for stabilization and landfilling.

The facility used to generate spent caustic (D002) from cleaning paint from metal skids. The process consisted of dipping skids into a hot caustic tank. This process began and ended before 1986, and no further information is available on it. Facility representatives believe it is likely that Evergreen pumped the spent caustic and any solids directly from the caustic tank. Evergreen then transported the spent caustic and tank sludges off site for disposal. Skids are currently sent off-site for cleaning.

Wastewaters generated at the facility include spent phosphate wash, boiler blowdown, nonhazardous soaps, and drum rinsate. These wastewaters are generated from various sources, some of which have been discussed above. All wastewaters are treated in the WWTP (SWMU 15) prior to discharge to sanitary sewers, which flow to the local POTW. Some of the facility's floor drains flow to the WWTP (SWMU 15).

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to groundwater, surface water, air, and on-site soils at the facility.

According to Ford's 1978 spill prevention control and countermeasure plan (revised in July 1984), four releases occurred at the Ford facility. No further information was found in facility or regulatory files regarding the reported spills. On July 31, 1976, transmission oil spilled from an unspecified tank due to a pressure pipe gasket failure. The spill flowed into the Former Lagoons (SWMU 8), but some material was released to a stormwater sewer. On August 8, 1976, diesel oil spilled from a temporary aboveground storage tank to a stormwater sewer. On January 11, 1978, industrial wastewater was released to a stormwater sewer as a result of a sump pump failure. On November 24, 1981, industrial wastewater was released to a stormwater sewer as a result of a fractured line running to the Former Lagoons (SWMU 8) (Ford 1978).

According to a certification Ford filed regarding potential releases from SWMUs, three releases occurred at the Ford facility. No further information was available regarding the spills. On May 1, and November 8, 1978, untreated industrial wastewater overflowed the wastewater pretreatment plant as a result of a sump pump failure. About 40,000 gallons of wastewater was spilled; about 2,000 gallons of this wastewater was released to a stormwater sewer that flowed to an unnamed tributary of

Quarry Creek, which flows into Lake Erie. None of the spilled material was recovered. EPA and OEPA were notified of the releases. The wastewater may have contained hazardous constituents. Prior to July 1985, the Drum Storage Area No. 1 (SWMU 1) had an earthen berm around it. Visual contamination was observed around the perimeter of this unit. All visually contaminated soil and sand was disposed of off site as hazardous waste, but no sampling was conducted to determine if the contamination was hazardous or if any hazardous constituents remained (Ford 1986). No further information is available on the transportation or disposal of the contaminated soil and sand.

On May 15, 1989, about 1,800 gallons of DuPont Tarmax Clear Feed Resin was spilled from an underground tank as a result of a faulty pumping hose. Samsel Services recovered about 900 gallons of the spill, while the other 900 gallons drained into an on-site, unnamed tributary to Quarry Creek (OEPA 1989b). No further information is available regarding this spill.

Between 1968 and 1988, the Former Spent Purge Solvent Tank (SWMU 12) stored paint wastes (D001, D005, D006, and D007) and spent solvents (F001, F002, F003, F005, D001, and D007). In May 1988, the tank was emptied, cleaned, and taken out of service. In May 1991, Ford excavated the tank. In November 1992, subsurface sampling in the excavation area identified the following constituents: 6 micrograms per kilogram ($\mu\text{g}/\text{kg}$) of benzene; 21 $\mu\text{g}/\text{kg}$ of toluene; 10 $\mu\text{g}/\text{kg}$ of xylene; 33 $\mu\text{g}/\text{kg}$ of 1,1,1-trichloroethane; 17 $\mu\text{g}/\text{kg}$ of trichloroethane; and 760 $\mu\text{g}/\text{kg}$ of 1,2-dichloroethane. No heavy metals were identified during sample analysis. Ford contracted with CEC Consultants, Inc. (CEC), to perform a closure assessment of the leaking UST area. CEC completed a risk-based assessment in January 1993 (CEC 1993). At the time of the VSI, no corrective action had been performed on contaminated soils in the area of at the Former Spent Purge Solvent Tank (SWMU 12), because the facility was waiting for OEPA approval of the assessment.

On May 11, 1992, an unspecified amount of commercial product solvent was released to on-site soils during tank filling activities. Ford contended that the solvent was not hazardous, and OEPA concurred. Affected soils were excavated and Wayne transported the soils to the FAP Landfill (Ford 1992b).

2.5 REGULATORY HISTORY

The following sections summarize the regulatory status, inspection history, and permitting history at the Ford facility.

2.5.1 Regulatory Status

Ford submitted a Notification of Hazardous Waste Activity form to EPA on August 14, 1980, indicating the facility generated and treated, stored, or disposed of hazardous wastes (Ford 1980a). Ford submitted a RCRA Part A permit application on November 14, 1980. Ford's RCRA Part A permit application listed F003, F017, U151, and U239 wastes being stored in a 4,000-gallon container storage unit (SWMU 3) (process code S01); F001, F002, F005, U159, U220, and U226 wastes being stored in an 8,000-gallon storage tank (SWMU 12) (S02); and F018 waste being stored and treated in a storage and treatment surface impoundment with a capacity of 1,115,000 gallons per day (SWMU 8) (S04 and T02) (Ford 1980b). The container storage unit was used to store drummed raw materials, drummed hazardous wastes, and empty drums. The tank storage pertained to the Former Spent Purge Solvent Tank (SWMU 12), which actually had a storage capacity of 10,000 gallons. No discrepancies have been identified regarding the surface impoundments.

On August 5, 1981, Ford requested that its RCRA Part A permit application be withdrawn because EPA had delisted the F018 hazardous waste code. In addition, EP toxicity sampling methods found the former lagoon sludge to be nonhazardous. Ford concluded the facility should have the status of generator only (Ford 1981).

On July 11, 1985, EPA notified the facility that it was about to lose interim status for its RCRA land disposal units. EPA was considering enforcement action against the Ford facility for violating Ohio administrative codes and federal interim status requirements. EPA contended that the Former Lagoons (SWMU 8) were used to process wastewater treatment sludge from electroplating operations (waste code F006). Ford contended that the Former Lagoons (SWMU 8) were not land disposal or treatment units for two reasons. First, the former lagoon sludge did not exhibit the characteristics of ignitability, corrosivity, reactivity, or EP toxicity. Second, the sludge was generated from a phosphating operation used in an industrial painting application, which was a completely different

process than electroplating (Ford 1985b, 1985c). These two arguments were the basis for Ford's delisting petition, which was initiated in August 1981 (Ford 1981).

Ford elected to close the Former Lagoons (SWMU 8) according to RCRA standards because of EPA delays in the facility's delisting petition. Ford submitted a closure plan for the Former Lagoons (SWMU 8) on August 28, 1985 (Ford 1985a). On December 11, 1985, Ford submitted modifications to the closure plan. Ford proposed changes in sampling protocols and the use of background leachate samples in lieu of drinking water levels for evaluating the presence of barium in soils (Ford 1985d). No information is available on when either EPA or OEPA approved the closure plan.

Closure activities included skimming oil from the lagoon water surface, emptying the lagoon water, removing sludge, and testing soils from below the bottom of the lagoons. An unidentified volume of skimmed oil was recycled off site at an undisclosed location. All wastewater in the Former Lagoons (SWMU 8) was treated in the facility's WWTP (SWMU 15). Approximately 3,100 cubic yards of sludge was removed from the Former Lagoons (SWMU 8) and placed in the Former Lagoon Sludge Storage Area (SWMU 9). Wayne used cement kiln dust and lime to stabilize the sludge on site before transporting the material to its Belleville, Michigan, landfill. Encotec Laboratory in Ann Arbor, Michigan, sampled the soils beneath the lagoon bottoms for heavy metals. Based on this soil analysis, Wayne removed an additional 800 cubic yards of lead-contaminated soils and disposed of the material at its landfill in Belleville, Michigan (Ford 1985a, 1985b). Closure activities were concluded in early 1986, and the lagoons have been backfilled.

On May 24, 1988, EPA no longer considered the Former Lagoons (SWMU 8) to be hazardous waste treatment units because of the federal redefinition of the F006 waste code. OEPA classified the facility as a generator only and canceled its plans for reviewing and approving of the facility's closure (OEPA 1988).

The Ford facility is currently regulated as a large-quantity generator of hazardous waste.

2.5.2 Inspection History

On March 27, 1985, OEPA conducted a RCRA compliance inspection at the Ford facility. The inspection found that containers were not clearly marked, Ford did not conduct daily inspections at hazardous waste tanks, and several deficiencies in facility paperwork. OEPA issued Ford a notice of violation (NOV) and directed Ford to submit documentation for corrections of these violations within 30 days (OEPA 1985). No further information is available on whether the facility responded to the NOV or whether OEPA returned the facility to compliance.

On April 24 and 25, and May 6 and 10, 1991, OEPA conducted RCRA compliance inspections at the Ford facility. The inspections found the following violations: containers and tanks were improperly marked, drums accumulated waste longer than 90 days, drum storage areas had inadequate aisle space, drums were in poor condition or not covered, and numerous deficiencies existed in facility paperwork. The inspections also found unspecified spilled wastes in the sump of Drum Storage Area No. 1 (SWMU 1). An unspecified contractor was hired by Ford to clean up the spilled material prior to OEPA's final inspection. OEPA issued Ford an NOV on May 31, 1991, and directed Ford to submit documentation for corrections of these violations within 30 days (OEPA 1991). No further information is available on whether the facility responded to the NOV or whether OEPA returned the facility to compliance.

On June 17, 18, 19, and 23, 1992, OEPA conducted RCRA compliance inspections at the Ford facility. OEPA issued an NOV for the following violations: wastes were accumulated for more than 90 days, containers were improperly labeled, containers were not marked with accumulation dates, and numerous deficiencies existed in facility paperwork. OEPA directed the facility to expedite closure of a the Former Spent Purge Solvent Tank (SWMU 12) (Ford 1992b, OEPA 1992).

Ford responded to the NOV on August 19, 1992 (Ford 1992b). OEPA notified Ford on September 8, 1992, that all violations had been addressed; however, Ford would not be returned to compliance until closure was complete at the Former Spent Purge Solvent Tank (SWMU 12) (OEPA 1992). On February 22, 1993, Ford notified OEPA that the Former Spent Purge Solvent Tank (SWMU 12) had been excavated. On March 19, 1993, OEPA notified Ford that unacceptable levels of contamination remained in the soil and that the facility would remain out of compliance until the contamination was

removed (OEPA 1993). At the time of the VSI, corrective action had not yet begun on the contaminated soils, because Ford was awaiting OEPA approval of the facility's risk-based assessment.

2.5.3 Permitting History

The facility is required to have air operating permits. Currently, the facility operates under 32 air permits. The facility has no history of permit violations or odor complaints from local residents.

Ford operates under National Pollutant Discharge Elimination System (NPDES) Permit No. 31C00039 for stormwater discharges (OEPA 1989a). The facility operates the following five outfalls: two to Quarry Creek, two to Lake Erie, and one to Brownhelm Creek (Ford 1992c). No violations of this permit have been documented.

The facility has operated numerous USTs since 1958 for the storage of raw materials and liquid wastes. Table 3 summarizes the facility's UST history; missing numbers in the tank sequence apply to aboveground storage tanks.

2.6 ENVIRONMENTAL SETTING

This section describes the climate; flood plain and surface water; geology and soils; and groundwater in the vicinity of the facility.

2.6.1 Climate

The climate in Lorain County is classified as a humid, temperate continental climate. Winds off Lake Erie tend to lower the daily high temperature in summer and raise it in winter. Summers are moderately warm and humid; winters are cold and cloudy. The average annual temperature is between 48.9 °F and 51.5 °F. The lowest average daily temperature is 19.3 °F in January. The highest average daily temperature is 84.3 °F in July (USDA 1976).

TABLE 3
UNDERGROUND STORAGE TANK INVENTORY

Tank No.	SWMU No.	Capacity (gal.)	Description	Dates of Operation	Remarks
1	NA	20,000	Solvent thinner product	1958 - 1986	
2	NA	20,000	Naphtha product	1958 - 1986	
3	NA	20,000	Solvesso No. 150 product	1958 - 1986	
4	NA	20,000	Transmission, steering fluid product	1958 - 1986	
5	NA	20,000	Transmission fluid product	1958 - 1986	
6	NA	20,000	Transmission, steering fluid product	1958 - 1986	
15	13	6,000	Solvent waste	1958 - 1989	Replaced by Tank No. 86
16	13	6,000	Purge solvent waste	1958 - 1989	Replaced by Tank No. 86
17	NA	6,000	Solvent product	1958 - 1989	
21	NA	6,000	Antifreeze, water mix product	1958 - 1986	
22	NA	6,000	Brake fluid product	1958 - present	
23	NA	6,000	Brake fluid product	1958 - present	
24	NA	20,000	Gasoline product	1958 - present	
25	NA	20,000	Gasoline product	1958 - present	
26	NA	20,000	Antifreeze product	1958 - present	
30	12	10,000	Solvent and paint waste	1968 - 1988	Removed in 1991, soil contamination remains
33	NA	8,000	No. 2 fuel oil product	1958 - 1986	
35	21	12,000	Purge solvent waste	1958 - 1989	Replaced by Tank No. 86
41	NA	20,000	No. 2 diesel fuel	1958 - present	
46	NA	550	No. 2 diesel fuel	1958 - present	
47	NA	10,000	Resin product	1958 - present	
50	18	1,000	Waste oil	1973 - present	
51	18	750	Waste oil	1973 - present	
52	18	750	Waste oil	1973 - present	
59	NA	10,000	Diesel fuel product	1958 - present	
60	NA	10,000	Diesel fuel product	1958 - present	
70	14	6,000	Waste oil	1971 - present	
71	14	4,000	Waste oil	1971 - present	
78	NA	1,000	Septic tank aeration system	1958 - present	
85	12	15,000	Paint and solvent wastes	1990 - present	Replaces Tanks No. 15, 16, 30, and 35
86	10	15,000	Purge solvent waste	1990 - present	Replaces Tanks No. 15, 16, 30, and 35
87	NA	10,000	Xylene product	1990 - present	
88	NA	10,000	Empty--to be used for product	1990 - present	

The average total annual precipitation for the county is 35 inches. Average seasonal snowfall is 42 inches (USDA 1976). Mean annual lake evaporation for the area is about 30 inches (USDC 1968). The 1-year, 24-hour maximum rainfall is about 2.25 inches (USDC 1963). The average relative humidity in early afternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 80 percent. Possible sunshine is 70 percent in July, and wind speed is highest in January at about 13 miles per hour (USDA 1976).

2.6.2 Flood Plain and Surface Water

The surface water body nearest to the facility is Brownhelm Creek, located adjacent to the southwest corner of the property. Brownhelm Creek flows about 0.75 miles north to Lake Erie, and is used for stormwater runoff. An unnamed ephemeral tributary to Brownhelm Creek is located on the southwest side of the Ford facility property (USGS 1969).

Lake Erie is located about 400 feet north of the facility. Lake Erie is used for drinking water, commercial, and recreational purposes (PRC 1993a, PRC 1993b, USGS 1969).

Quarry Creek is located about 600 feet east of the facility. Quarry Creek flows about 0.75 mile north to Lake Erie. Quarry Creek is used for stormwater runoff and discharge of treated sanitary effluent (PRC 1993a). An unnamed ephemeral tributary to Quarry Creek is located on the southeast side of the Ford property (USGS 1969).

Stormwater runoff from the facility flows into stormwater sewers that discharge through NPDES-permitted outfalls to Lake Erie and the unnamed tributaries to Quarry Creek and Brownhelm Creek. Some facility floor drains are directed to three of these outfalls. Water from floor drains is treated by the Outfall Interceptor Tanks (SWMU 18) to recover any oil in the water prior to discharge.

Facility operations are located outside a 500-year flood zone. However, the unnamed tributary to Brownhelm Creek, located on the southwest corner of the property is located in the 100-year flood zone (FEMA 1992).

2.6.3 Geology and Soils

Soils in the area of the facility consist of Urban land. The Urban land aspects of the landscape include gently sloping areas covered by buildings, structures, concrete, asphalt, and other impervious surfaces. Immediately adjacent to Urban land soils are Fitchville series soils, which consist of somewhat poorly drained, nearly level to gently sloping soils on the lake plain. Fitchville soils consist of a silt loam and silt clay loam that is about 60 inches deep. Permeability is moderately slow, and runoff is slow to medium (USDA 1976).

Underlying soils in the vicinity of the facility are thin Wisconsinan-age lacustrine deposits. The material primarily consists of silt and fine sand laid down from glacial Lake Erie. This deposit is thin in the area of the facility due to erosion by wave action from current Lake Erie (ODNR 1982). Based on well logs from near the facility, the total thickness of the unconsolidated units varies between 20 feet and 60 feet (ODNR 1953).

Devonian-age bedrock underlies the glacial deposits. The bedrock consists of the thick Chagrin Shale Member of Ohio Shale. Bedrock is encountered close to the surface, with exposed areas in most stream valleys (ODNR 1982). The Chagrin Shale is over 600 feet thick (Williams 1940).

2.6.4 Groundwater

Groundwater in the vicinity of the facility is encountered primarily in the bedrock aquifers. Shallow aquifers may exist as confined areas of sand located within the silty clay lacustrine deposits. Due to fine-grained, unconsolidated lacustrine deposits, groundwater is not available in quantity up to depths of 100 feet below ground surface. Shallow aquifers are not continuous and most likely evaporate or recharge the lower groundwater tables. Based on well logs in the vicinity of the facility, no shallow aquifers exist in the vicinity of the facility. Dry wells have been developed in the bedrock, which consists of shale material (ODNR 1953).

Bedrock aquifers in the area are a poor source of groundwater. In certain areas, the Chagrin Shale formation does not produce any groundwater. Groundwater flow in the bedrock aquifer is not

known. However, groundwater flow most likely follows the topography of the area toward the north (USGS 1969, Williams 1940).

2.7 RECEPTORS

The Ford facility is located at 5401 Baumhart Road in Lorain, Lorain County, Ohio. The six facility buildings cover about 3.8 million square feet of a 212-acre property located in a rural and light manufacturing area. The facility is bordered on the north by State Route 6 and Lake Erie; on the west by Baumhart Road, woods, and farmland; on the south by woods and light manufacturing facilities; and on the east by woods and a railroad yard.

Lorain has a population of about 71,000 people (PRC 1993a). The population of Vermilion, located west of the facility, is about 11,000 people (PRC 1993b). The nearest school is located about 1.25 miles west of the facility, and the nearest residence is located about 0.25 mile west of the facility (USGS 1969). The entire facility is enclosed by a fence; in addition, several security cameras are mounted on the facility perimeter, and facility grounds are patrolled by 24-hour security guards. Truck entrances have a gate and a guard, and railroad lines entering the property are controlled with gates.

The nearest surface water body to the facility is Brownhelm Creek, located adjacent to the southwest corner of the property. Brownhelm Creek is used for stormwater runoff. An unnamed ephemeral tributary to Brownhelm Creek is located on the southwest side of the Ford facility property (USGS 1969). The unnamed tributary to Brownhelm Creek receives facility stormwater and runoff from floor drains via outfall 005. Quarry Creek is located about 600 feet east of the facility. Quarry Creek is used for stormwater runoff and treated sanitary effluent (PRC 1993a). An unnamed ephemeral tributary to Quarry Creek is located on the southeast side of the Ford facility property (USGS 1969). The unnamed tributary receives facility stormwater and floor drains via outfall 001 and outfall 002. Lake Erie is located about 400 feet north of the facility and receives facility stormwater runoff via outfall 001. Lake Erie is used for drinking water, commercial, and recreational purposes. Lake Erie is the primary source of drinking water in the vicinity of the facility. The nearest intakes in Lake Erie are located about 3.25 miles east of the facility.

Local water officials assume that groundwater is used as a private water supply by a few households. However, the nearest private drinking water well cannot be identified because the only well logs located by OEPA are for dry wells located east of the facility (ODNR 1953; PRC 1993a and 1993b).

No sensitive environments exist at the facility or within a 3-mile radius of the facility (USGS 1969). Endangered species in Lorain County include the Indiana bat (riparian habitat) (USDI 1989).

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the 20 SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC's observations. Figure 2 shows the SWMU locations.

SWMU 1

Drum Storage Area No. 1

Unit Description:

This unit is maintained outdoors on the east-central side of the main facility building. The unit is constructed of concrete and measures about 100 feet by 40 feet. A 9-inch concrete berm surrounds most of the unit except for two areas that are raised and sloped to allow vehicles to enter the unit. A drain, which leads to a sump located in the southeast corner, is located along the north, east, and south sides of the unit. An industrial sewer, which flows to the WWTP (SWMU 15), is located near the middle of the unit. These construction specifications were built in 1985. Prior to this, the unit was used as a waste staging pad. At that time, the unit measured about 45 feet by 120 feet and the perimeter of the unit had an earthen berm (Ford 1986).

Date of Startup:

This unit began operations in the early 1980s, staging liquid hazardous wastes. In about 1985, the unit began being used to store liquid hazardous wastes in 55-gallon drums and bulk containers.

Date of Closure:

This unit currently stores hazardous wastes for less than 90 days.

Wastes Managed:

Since 1985, this unit has managed containerized paint wastes (D001, D005, D006, D007); spent solvents (F001, F002, F003, F005, D001, D007); nonhazardous waste fluids, nonhazardous used oil; residuals (D001); spent mineral spirits (D001); and waste gasoline (D001).

Wastes are pumped from drums directly into tanker trucks for off-site disposal. Empty drums are rinsed and stored at the east end of Drum Storage Area No. 2 (SWMU 2). Prior to 1985, stored drummed wastes were either poured directly into the Former Spent Purge Solvent Tank (SWMU 12) or pumped into tanker trucks for off-site disposal. Empty drums were stored on racks at Drum Storage Area No. 3 (SWMU 3).

Release Controls:

A 9-inch concrete berm surrounds around most of the unit, except for two areas that are raised and sloped to allow vehicles to enter the unit. The floor of this unit has an epoxy coating. A drain, which leads to a sump located in the southeast corner, is located along the north, east, and south sides of the unit. An industrial sewer, which flows to the WWTP (SWMU 15), is located near the middle of the unit. These construction specifications were built in 1985. Prior to this, the unit measured about 45 feet by 120 feet and the perimeter of the unit had an earthen berm.

**History of
Documented Releases:**

Runoff from this unit stained soils around its perimeter. Visually contaminated soil and sand was removed and disposed of off site in 1985 when structural improvements were made. No sampling was conducted to determine if the contamination was hazardous or if any contamination remained. At the time of the VSI, strong solvent odors were detected at this unit.

Observations:

Any spills within this unit would be contained within or flow to the drains and sump of the unit (see Photographs No. 1 and 2). At the time of the VSI, this unit stored the following wastes (all are in 55-gallon drums); 7 drums of nonhazardous waste; 23 drums of paint wastes (D001, D005, D006, D007) and spent solvents (F001, F002, F003, F005, D001, D007); 9 drums of cleaning solvent (D001). In

addition, one 550-gallon tote and one 650-gallon tote of cleaning solvent (D001) were stored in the unit. At the time of the VSI, strong solvent odors were noted. No cracks were observed in the floor of this unit. Herbicide use was extremely evident on the unit's east side along the railroad spur.

SWMU 2

Drum Storage Area No. 2

Unit Description:

This unit is maintained outdoors and southeast of Drum Storage Area No. 1 (SWMU 1). The unit is constructed of concrete and occupies about 14,000 square feet of a larger concrete pad. A 9-inch concrete berm exists on the north side of the unit. The floor is raised and sloped on the west side to allow vehicles to enter the unit. A drain and sump are located in the northwest corner of the unit. The drain flows to the WWTP (SWMU 15). This unit is used primarily to store drummed nonpumpable wastes.

Date of Startup:

This unit is estimated to have begun operations in the early 1980s.

Date of Closure:

This unit currently stores hazardous wastes for less than 90 days.

Wastes Managed:

This unit manages paint wastes (D001, D005, D006, D007); spent solvents (D001, D007); asbestos waste; and nonhazardous solid wastes such as used oil electrocoat sludge, paint filters, waste windshield sealer, and drummed residuals. Clean, empty drums from empty drum handling operations are stored at the southeast end of this unit. Wastes are disposed of off site. Clean, empty drums are reconditioned off site. In the past, used oil (D007, D008) was stored at this unit.

Release Controls:

This unit occupies about 14,000 square feet of a larger concrete pad. A 9-inch concrete berm exists on the north side of the unit. The floor

is raised and sloped on the west side to allow vehicles to enter the unit. A drain and sump are located in the northwest corner; the drain flows to the WWTP (SWMU 15).

**History of
Documented Releases:**

This unit has no history of documented releases.

Observations:

At the time of the VSI, this unit stored the following wastes in 55-gallon drums: 34 drums of paint cans (D001) and 42 drums of nonhazardous wastes (see Photograph No. 3). The unit also stored four fiber drums of asbestos waste, four 55-gallon drums of residuals (see Photograph No. 4), and four cleaned and empty 55-gallon drums (see Photograph No. 5). No cracks were observed in the concrete; but stains were observed at the northeast corner of the unit.

SWMU 3

Drum Storage Area No. 3

Unit Description:

This unit is located outdoors, north of Drum Storage Area No. 1 (SWMU 1). The unit consists of a concrete pad that measures about 11,000 square feet. The concrete pad slopes west towards the facility building and a stormwater sewer, and east towards a railroad spur. Currently, on the north end of this unit, empty product drums are stored on racks. Ford pays deposits on these drums and returns them to the manufacturer or distributor. At the south end of this unit, full raw material drums are stored on pallets. The facility's original Part A permit application identifies this unit as its hazardous waste drum storage area.

Date of Startup:

This unit is estimated to have begun operations in 1958.

Date of Closure:

This unit currently stores empty product drums and full raw materials drums.

Wastes Managed:

This unit currently manages empty drums on racks on the unit's north side. The drums will be returned to chemical manufacturers or distributors for reuse. According to the facility's original Part A permit application, prior to 1986 this unit managed F003, F017, and U159 wastes. This unit also managed used oil (D007, D008) generated from the Former Lagoons (SWMU 8). According to facility representatives, hazardous wastes were never stored at this unit for more than 90 days. Due to personnel changes at the facility, no information is available on the transportation or disposal practices of these wastes.

Release Controls:

This unit has no release controls. The west side of the unit slopes towards a stormwater sewer. The east side of the unit slopes towards a ditch running along a railroad spur.

**History of
Documented Releases:**

No releases from this unit have been documented.

Observations:

At the time of the VSI, about 100 empty drums were stacked on racks located at the north end of the unit (see Photograph No. 6). The empty drums contained xylene and isopropyl alcohol and many were stored with open bungs. In addition, more than 200 raw material product drums were stored on pallets at the south end of the unit; some were stacked two-high. The west side of the unit slopes to a stormwater sewer that discharges to one of the facility's NPDES-permitted outfalls. If the raw material drums shifted, the potential for a release to the stormwater sewer is high (see Recommendations in Section 5.0). Bare ground is located along the north side of this unit. No odors were noted.

SWMU 4**Satellite Accumulation Areas****Unit Description:**

This unit is maintained indoors on concrete or metal floors. In some areas, the floors have an epoxy coating. Most SAAs consist of a 55-gallon drum equipped with a covered funnel. Spent windshield solvent (D001) is generated as empty spray cans, dirty wipe rags, and solids that are all placed directly into drums. Full drums are transferred to either Drum Storage Area No. 1 (SWMU 1) or Drum Storage Area No. 2 (SWMU 2) prior to off-site disposal.

Date of Startup:

This unit began operations in 1985.

Date of Closure:

This unit currently accumulates hazardous and nonhazardous wastes near sources of generation.

Wastes Managed:

This unit manages paint wastes (D001, D005, D006, D007); spent solvents (F001, F002, F003, F005, D001, D007); waste windshield sealer; waste fluids; spent mineral spirits (D001); and waste gasoline (D001). Full drums are transferred to either Drum Storage Area No. 1 (SWMU 1) or Drum Storage Area No. 2 (SWMU 2) prior to off-site disposal.

Release Controls:

SAAs are maintained indoors on concrete or metal floors. In some areas, the floors have an epoxy coating. Drums are stored closed; funnels are closed when not in use.

**History of
Documented Releases:**

No releases from this unit have been documented.

Observations:

During the VSI, most of the facility's SAAs were observed (see Photographs No. 7 through 11). In all areas observed, the drums were in good condition, stored closed, and no floor drains were

present. In some areas the floors had an epoxy coating. In other areas, some of the floors had minor cracks, some had paint stains, and some had worn epoxy coating.

SWMU 5

Paint Sludge Pits

Unit Description:

This unit is maintained outdoors and is located east of Drum Storage Area No. 1 (SWMU 1) and Drum Storage Area No. 3 (SWMU 3). The unit is comprised of one 350,000-gallon pit, one 125,000-gallon pit, two 100,000-gallon pits, and a process building. All pits are constructed of concrete below grade and are equipped with weirs and drains. The pits are part of an air filtering system used in facility paint booths. Water circulates under the grate floors of the paint booth, and a forced downdraft causes airborne paint to be trapped in the water. A flocculent is also added to the water to encourage the paint to precipitate out. The resulting sludge collects at the bottom of this unit, and the water is released over the weir to be recirculated in the paint booths. When one pit is full, the water in the system is discharged to the WWTP (SWMU 15) and the nonhazardous sludge is removed for off-site disposal.

Date of Startup:

This unit began operations in 1982.

Date of Closure:

This unit currently accumulates nonhazardous paint sludge.

Wastes Managed:

This unit accumulates nonhazardous paint sludge generated from paint booths. The two largest pits receive circulating water from paint booths applying enamel paints; the two smaller pits receive circulating waters from paint booths. The paint sludge is nonhazardous because latex paints are used. About 250 cubic yards of nonhazardous paint sludge are generated per year. The wastes are removed and disposed of in an off-site landfill.

Release Controls: This unit is constructed of concrete and manages nonhazardous paint sludge. The pits are located below grade.

History of Documented Releases: No releases from this unit have been documented.

Observations: At the time of the VSI, one 100000-gallon pit was active and was receiving waters from primer paint booths (see Photograph No. 12). The 350000-gallon pit was also active, receiving waters from enamel paint booths. No odors were detected. The empty pits were clean and appeared to be in good condition.

SWMU 6 Former Sludge Tank

Unit Description: This former unit was located in the basement of the assembly building. Between 1966 and 1982, the unit was part of the air filtering system used in facility paint booths. This unit received circulating waters from paint booths. Paint solids settled out in this tank, and the circulating water was sent back to the paint booths. Because of personnel changes at the facility, no further information is available regarding this unit.

Date of Startup: This unit began operations in 1966.

Date of Closure: This unit ceased operations in 1982. The tank was cut up and sold as scrap for off-site disposal. The Paint Sludge Pits (SWMU 5) replaced this unit.

Wastes Managed: This unit accumulated nonhazardous paint sludge generated from paint booths. The latex paint sludge was nonhazardous. Sludge was removed from this tank on a continual basis via a conveyor into the Former Sludge Dumpster (SWMU 7) for storage and disposal. No

information is available on how much sludge was generated annually from this unit.

Release Controls: This unit was used to accumulate nonhazardous paint sludge.

History of Documented Releases: No releases from this unit have been documented.

Observations: This former SWMU no longer exists at the Ford facility.

SWMU 7 Former Sludge Dumpster

Unit Description: This former unit was located near the Former Sludge Tank (SWMU 6). The unit consisted of a 40-cubic-yard, roll-off dumpster lined with plastic. Nonhazardous paint sludge accumulated in the Former Sludge Tank (SWMU 6) was stored in this unit. When this unit was full, it was transported off site to dispose of the wastes it stored.

Date of Startup: This unit began operations in 1966.

Date of Closure: This unit ceased operations in 1982.

Wastes Managed: This former unit was used to store nonhazardous paint sludge accumulated in the Former Sludge Tank (SWMU 5). Wastes were transferred to this unit from the former tank via a conveyor.

Release Controls: This unit stored nonhazardous paint waste and was lined with plastic.

History of Documented Releases: No releases from this unit have been documented.

Observations: This former SWMU no longer exists at the facility.

SWMU 8**Former Lagoons****Unit Description:**

This former unit was located northwest of the WWTP (SWMU 15). The unit consisted of four earthen surface impoundments with clay bottoms. All of the lagoons were interconnected. Three lagoons measured 130 feet by 40 feet by 6 feet, and one measured 130 feet by 60 feet by 6 feet.

Date of Startup:

Three lagoons began operations in 1958. The fourth lagoon began operations in 1970.

Date of Closure:

The lagoons began undergoing RCRA closure in 1985. In 1988, the lagoons were no longer considered hazardous waste treatment units due to the federal redefinition of waste code F006. The facility began phasing out lagoon operations in 1984 when the facility's WWTP (SWMU 15) became operational. None of the former lagoons were used after January 1985. Closure activities were completed in early 1986, and the lagoons have been backfilled.

Wastes Managed:

This unit received wastewaters from boiler blowdown, caustic rinse, spent phosphate wash, and facility floor washing and vehicle washing activities. The Former Lagoons generated used oil (D007, D008). Oil was skimmed from the wastewater stream on a continual basis and either stored in the Used Oil Tanks (SWMU 14) or placed in drums and stored in Drum Storage Area No. 2 (SWMU 2). Used oil (D007, D008) was pumped directly from the tanks or drums into tanker trucks for off-site recycling. No information is available on the amount of used oil generated in this manner. Approximately 533,000 gallons of nonhazardous wastewater sludge was generated annually and landfilled off site.

Release Controls:

This unit was underlain by an impermeable clay liner.

**History of
Documented Releases:**

During closure activities in 1985, about 800 cubic yards of lead-contaminated subsurface soils were excavated and landfilled off site.

Observations:

At the time of the VSI, the Former Lagoons (SWMU 8) had been filled in and paved over (see Photographs No. 13 and 14). The area is used for truck trailer parking, chassis parts storage, and debris storage.

SWMU 9

Former Lagoon Sludge Storage Area

Unit Description:

This unit was maintained outdoors, north of the Former Lagoons (SWMU 8), and was constructed of concrete. It measured about 400 feet by 200 feet. Nonhazardous sludge generated in the Former Lagoons (SWMU 7) was stored as a pile on the concrete here prior to off-site disposal.

Date of Startup:

This unit is estimated to have begun operations in 1958.

Date of Closure:

This unit ceased operations in 1985.

Wastes Managed:

This unit managed nonhazardous wastewater treatment sludge generated in the Former Lagoons (SWMU 8). Sludge was dredged from the lagoons and placed in this unit prior to off-site landfilling.

Release Controls:

This unit managed nonhazardous wastewater treatment sludge. No further information is available on whether this unit was equipped with runoff containment structures.

**History of
Documented Releases:**

No releases from this unit have been documented.

Observations: At the time of the VSI, the area was being used for truck trailer storage (see Photograph No. 15).

SWMU 10 Spent Purge Solvent Holding Tank

Unit Description: This unit is maintained indoors on concrete floors at the south end of the paint kitchen. This unit consists of a 200-gallon steel tank. Spent purge solvent (D001) from painting lines is accumulated in this unit. When the tank is almost full it automatically empties to an underground storage tank. Since 1990, it has emptied into the spent purge solvent tank located in the Paint and Solvent Tank Farm (SWMU 11); if that tank is full, overflow empties into the paint and solvent waste tank in the tank farm. Between 1968 and 1990, the unit emptied into either the Former Spent Purge Solvent Tank (SWMU 12) or the Former Waste Tank Farm (SWMU 13).

Date of Startup: This unit began operations in 1981.

Date of Closure: This unit currently accumulates spent purge solvent (D001) generated in painting lines.

Wastes Managed: This unit manages spent purge solvent (D001) generated from the paint lines. Purge solvent is used to clean the painting lines between color changes.

Release Controls: This unit is maintained indoors on concrete floors.

History of Documented Releases: No releases from this unit have been documented.

Observations: The floors in the area near this unit appeared to be in good condition, and no floor drains were present. The tank appeared to have overflowed in the past, because paint had streaked the outside of it (see Photograph No. 16).

SWMU 11

Paint and Solvent Waste Tank Farm

Unit Description: This unit is located southwest of Drum Storage Area No. 1 (SWMU 1). It consists of two interconnected, 15000-gallon, double-walled, fiberglass-coated, steel USTs. One tank primarily stores spent purge solvent (D001) accumulated in either the Spent Purge Solvent Holding Tank (SWMU 10) or in SAAs (SWMU 4). Overflow from this tank flows into the other tank. The second tank is primarily used to store paint wastes (D001, D005, D006, D007) and spent solvents (D001, D007).

Date of Startup: This unit began operations in 1990.

Date of Closure: This unit is active for less than 90-day storage of waste purge solvent (D001).

Wastes Managed: This unit stores spent purge solvent (D001), paint wastes (D001, D005, D006, D007), and spent solvents (D001, D007). Wastes are pumped directly from this unit into tanker trucks for off-site recycling. Between 1968 and 1989, some wastes were managed in the Former Spent Purge Solvent Tank (SWMU 12) and some in the Former Waste Tank Farm (SWMU 13). Occasionally, corrosive waste (D002, D007) is stored at this unit.

Release Controls: This steel UST is double-walled and is equipped with interstitial monitoring with automatic alarms. The entire tank is coated with fiberglass. Spent purge solvent (D001) is pumped into the tank via

aboveground piping from the Spent Purge Solvent Holding Tank (SWMU 10). The ground surface above the unit is covered by an epoxy-coated concrete area with a 6-inch berm. Drums of spent purge solvent (D001) are emptied into the unit within the bermed area.

History of
Documented Releases:

No releases from this unit have been documented.

Observations:

This tank is located in a larger tank farm that includes two underground product storage tanks. The tank farm appeared to be in good condition (see Photograph No. 17). The truck loading and unloading area of the farm is sloped to a closed sump. No stains were observed on the concrete.

SWMU 12

Former Spent Purge Solvent Tank

Unit Description:

This unit was located south of Drum Storage Area No. 1 (SWMU 1) and east of the Paint and Solvent Waste Tank Farm (SWMU 11). The unit consisted of a 10000-gallon, steel UST. Spent purge solvent (D001) was transferred for storage in this unit via aboveground piping from the Spent Purge Solvent Holding Tank (SWMU 10).

Date of Startup:

This unit began operations in 1968.

Date of Closure:

This unit ceased operations in May 1988. In May 1991, this unit was excavated.

Wastes Managed:

This unit was used to store spent purge solvent (D001). Spent purge solvent (D001) was pumped directly from this unit into tanker trucks for off-site recycling.

Release Controls:

This unit had no known release controls.

**History of
Documented Releases:**

In November 1992, subsurface soil sampling in the excavation area identified the following volatile organic compounds: 6 micrograms per kilogram ($\mu\text{g/kg}$) of benzene; 21 $\mu\text{g/kg}$ of toluene; 10 $\mu\text{g/kg}$ of xylene; 33 $\mu\text{g/kg}$ of 1,1,1-trichloroethane; 17 $\mu\text{g/kg}$ of trichloroethane; and 760 $\mu\text{g/kg}$ of 1,2-dichloroethane.

Observations:

At the time of the VSI, no corrective action had been taken regarding the soil contamination. The entire area was under concrete structures (see Photographs No. 1 and 18).

SWMU 13

Former Waste Tank Farm

Unit Description:

This former unit was located outdoors, directly south of Drum Storage Area No. 3 (SWMU 3). This unit consisted of four steel USTs; two 6000-gallon tanks for paint wastes (D001, D005, D006, D007) and spent solvents (D001, D007); one 12000-gallon tank for spent solvents (D001, D007); and one 6000-gallon tank for solvent product storage.

Date of Startup:

This unit began operations in 1958.

Date of Closure:

This unit ceased operations and was removed in 1989. No soil samples were collected to verify if any contamination of the backfill had occurred. No soils were excavated from the backfill area.

Wastes Managed:

This unit managed paint wastes (D001, D005, D006, D007) and spent solvents (D001, D007) for less than 90 days. One tank stored solvent product. Wastes were either poured into the tanks from drums or entered the tanks directly via aboveground piping. Wastes were pumped directly from the tanks into tanker trucks for off-site recycling.

Release Controls: This unit had a 2-foot berm around it to contain spills during loading and unloading of wastes and product. No release controls are known to have existed for the USTs.

History of Documented Releases: No releases from this unit have been documented.

Observations: At the time of the VSI, this unit consisted of gravel surrounded by a 2-foot high berm (see Photograph No. 19).

SWMU 14 Used Oil Tanks

Unit Description: This unit consists of two interconnected, steel USTs. Wastes are first stored in a 4000-gallon storage tank. When full, overflow from the first tank flows into a 6000-gallon storage tank. The unit receives oil generated from the Oil and Water Separator (SWMU 16) located at the WWTP (SWMU 15).

Date of Startup: This unit is estimated to have begun operations in 1971.

Date of Closure: This unit currently stores nonhazardous used oil.

Wastes Managed: This unit receives oil generated from the Oil and Water Separator (SWMU 16) located at the WWTP (SWMU 15). Prior to 1984, this unit most likely stored used oil (D007, D008) skimmed from the surface of the Former Lagoons (SWMU 8). The used oil has always been pumped directly from this unit into tanker trucks and recycled off site.

Release Controls: This unit has no known release controls.

History of Documented Releases: No releases from this unit have been documented.

Observations: A concrete pad covers the ground surface above this unit. Railroad ballast has been used as a ground cover in the area around the concrete pad, which made observation of the soil in the area difficult (see Photograph No. 20).

SWMU 15

Wastewater Treatment Plant

Unit Description: This unit is maintained in a separate building located on the north-central side of the property. Oil is removed from wastewaters with the Oil and Water Separator (SWMU 16). Solids are filtered out in a separator and filter press system. Waters are chemically treated in one of three 160,000-gallon steel batch tanks. The facility treats about 4 to 6 batches per day. Treated water is discharged to the facility sanitary sewers, which lead to the Lorain POTW.

Date of Startup: This unit began operations in 1971 as a pretreatment facility; because of personnel changes at the facility, no further information is available on WWTP operations prior to 1986. In 1984 the unit was upgraded to provide full treatment of facility wastewaters.

Date of Closure: This unit is active for treating facility wastewaters.

Wastes Managed: All facility floor drains from production areas lead to this unit. The WWTP (SWMU 15) treats nonhazardous soaps, boiler blowdown, spent phosphate wash, floor wash, and drum rinsate. Oil and solids are removed from the waste stream prior to treatment. Treated water is discharged to the facility sanitary sewers, which lead to the Lorain POTW.

Release Controls: This unit is maintained indoors on concrete floors.

History of Documented Releases: No releases from this unit have been documented.

Observations: The building and treatment tanks appeared to be in good condition (see Photograph No. 21).

SWMU 16 Oil and Water Separator

Unit Description: This unit is maintained on concrete floors inside the WWTP (SWMU 15). The 6-foot-tall, stainless-steel unit encloses a belt device that skims oil from wastewater. Water enters the unit at the bottom, and the belt skims oil from the surface. The belt passes over a scraper that removes oil from the belt. The oil falls off the scraper into a trough and then out of the unit into a 55-gallon drum. The drum is operated with its top off to facilitate filling. A funnel covers the open drum to prevent unwanted material from entering it. When full, the drum and any solids collected in the funnel are emptied directly into the Used Oil Tanks (SWMU 14).

Date of Startup: This unit began operations in 1984.

Date of Closure: This unit currently separates oil and water from the facility wastewaters prior to treatment in the WWTP (SWMU 15).

Wastes Managed: This unit separates nonhazardous oil from facility wastewaters.

Release Controls: This unit is maintained indoors on concrete floors. This unit manages nonhazardous used oil.

History of Documented Releases: No releases from this unit have been documented.

Observations: At the time of the VSI, the unit was operating. The unit was opened to allow PRC to observe the belt device (see Photograph No. 22). The 55-gallon steel drum was about half full. No floor drains were present in the vicinity of the unit.

SWMU 17 Filter Cake Dumpster

Unit Description: This unit consists of a plastic-lined, 40-cubic-yard, roll-off dumpster. The unit is maintained inside the northwest corner of the WWTP (SWMU 15) on concrete floors. The unit, located beneath the WWTP filter press, receives filter cake dumped from it.

Date of Startup: This unit began operations in 1984.

Date of Closure: This unit currently accumulates nonhazardous filter cake.

Wastes Managed: This unit accumulates filter cake generated from the filter press located in the WWTP (SWMU 15). When the unit is full, it is transported off site, and the wastes are landfilled. An empty, plastic-lined dumpster is then placed under the filter press.

Release Controls: This unit manages nonhazardous filter cake. This unit is maintained indoors on concrete floors.

History of Documented Releases: No releases from this unit have been documented.

Observations: At the time of the VSI, the facility opened the garage door to allow inspectors to view this unit (see Photograph No. 23). The dumpster appeared to be in good condition. No spilled material was observed around the unit, and PRC noted no foul odors. The floors were in

good condition, and no floor drains were located in the vicinity of the unit.

SWMU 18

Outfall Interceptor Tanks

Unit Description:

This unit is comprised of three steel USTs, each at a NPDES-permitted outfall. One tank has a 1000-gallon capacity, and two hold 750 gallons each. Some facility floor drains are directed to these units, which are equipped with oil and water separators to remove oil prior to discharge. The separator immediately places the skimmed oil in the tank.

Date of Startup:

This unit is estimated to have begun operations in 1973.

Date of Closure:

This unit currently stores nonhazardous used oil.

Wastes Managed:

This unit manages used oil separated from waters entering facility floor drains. Wastes are pumped directly from the unit into tanker trucks and recycled off site.

Release Controls:

These units are equipped with oil and water separators to prevent oil from being discharged directly to outfalls.

History of Documented Releases:

No releases from this unit have been documented.

Observations:

Facility representatives did not mention these units to PRC during the VSI. These units were identified after the VSI when PRC received information from the facility. As a result, PRC did not observe these units, and no photograph is available.

SWMU 19**Flyash Silo****Unit Description:**

This unit is located outside of the northeast corner of the facility's powerhouse. This unit consists of a cinderblock silo with about a 90-cubic-yard capacity.

Date of Startup:

This unit began operations in 1958.

Date of Closure:

This unit ceased operations in September 1993.

Wastes Managed:

This unit accumulated nonhazardous flyash generated from the coal-fired boilers of the powerhouse. Flyash was collected in hoppers located below the boilers. Flyash was transferred from the hoppers by a vacuum system to this unit and was transported off-site for landfiling. The disposal company determined the flyash to be nonhazardous prior to transporting the waste for disposal. Currently, no flyash is stored in this unit.

Release Controls:

This unit managed nonhazardous flyash. The chute at the bottom of the unit was connected to the top of a closed-hopper disposal truck to prevent the release of flyash to the air. The unit is situated on asphalt and concrete.

**History of
Documented Releases:**

No releases from this unit have been documented.

Observations:

At the time of the VSI, the unit was still operating. PRC did not observe flyash around the ground near this unit (see Photograph No. 24). The boilers were switched to natural gas in September 1993 (PRC 1993c).

SWMU 20**PCB Drum Storage Area****Unit Description:**

This unit is located outdoors at the southeast end of Drum Storage Area No. 2 (SWMU 2). The unit consists of an 8-foot by 8-foot by 8-foot steel cage situated on concrete. The unit is locked when PCB wastes are stored in it.

Date of Startup:

This unit began operations in the mid-1980s.

Date of Closure:

This unit current stores PCB wastes for less than 90 days.

Wastes Managed:

Some of the ballasts of older facility lights contain PCBs. This unit manages PCB wastes generated during facility renovations of the lighting.

Release Controls:

This unit is maintained outdoors on a concrete pad.

**History of
Documented Releases:**

No releases from this unit have been documented.

Observations:

At the time of the VSI, only one 55-gallon drum containing PCB-contaminated lighting ballast waste was stored in this unit (see Photograph No. 25). The unit was stored locked. No stormwater sewers are located nearby, and no spilled wastes were observed on the concrete pad.

4.0 AREAS OF CONCERN

PRC identified no AOCs during the PA/VSI.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified 20 SWMUs and no AOCs at the Ford facility. Background information on the facility's location; operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. AOCs are discussed in Section 4.0. Following are PRC's conclusions and recommendations for each SWMU and AOC. Table 4, located at the end of this section, summarizes the SWMUs at the facility and the recommended further actions.

SWMU 1

Drum Storage Area No. 1

Conclusions:

This unit has been used since the early 1980s to stage and store containerized paint wastes (D001, D005, D006, D007), spent solvents (F001, F002, F003, F005, D001, D007), nonhazardous used oil, residuals (D001), and waste gasoline. This unit is well maintained. In 1985, this unit replaced a slightly larger concrete waste staging pad that had an earthen berm. Visual contamination was removed without sampling to verify the existence or type of contamination. The potential for release to environmental media is summarized below.

Groundwater and surface water: The potential for release is low because the unit is constructed to contain spills.

Air: The potential for release is moderate because the unit is maintained outdoors. During the VSI, strong solvent odors were noted, even though containers are stored closed.

On-site soils: The potential for a past release is high because visual contamination once existed outside the earthen berms of this unit. No samples were collected to verify that no contamination remains.

Recommendations: PRC recommends collecting surface and subsurface soil samples around the perimeter of the unit to verify whether hazardous constituents were released to soils prior to 1985.

SWMU 2 Drum Storage Area No. 2

Conclusions: This unit is maintained outdoors on a concrete pad to store drummed paint wastes (D001, D005, D006, D007), spent solvents (D001, D007), asbestos waste, and nonhazardous solid wastes. No releases from this unit have been documented. The potential for release to environmental media is summarized below.

Groundwater, surface water, and on-site soils: The potential for release to groundwater, surface water, and on-site soils is low because the unit is constructed to contain spills.

Air: The potential for release to air is low because the unit is maintained outdoors and drums are stored closed. Stains on the concrete indicate that wastes have been spilled in the past.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 3 Drum Storage Area No. 3

Conclusions: This unit was used to store drummed hazardous wastes on a concrete pad. According to facility representatives, this unit never stored hazardous wastes for more than 90 days. This unit has also been used to store drummed raw material products. The concrete pad slopes towards a stormwater sewer and bare soils. This unit never underwent RCRA closure. No releases from this unit have been documented. The potential for release to environmental media is summarized below.

RELEASED
DATE 9/11/95
REV # 639-99
INITIALS Kf

56

ENFORCEMENT
CONFIDENTIAL

DATE 9/15/91
RIN # 639-49
INITIALS Kp

ENVIRONMENTAL
CONFIDENTIAL

Groundwater: The potential for release is low because soils are relatively impermeable and bedrock in the vicinity of the facility has not been found to produce water at depths of at least 100 feet. Wastes were stored on a concrete pad.

Surface water: The potential for release is moderate because the unit slopes towards a stormwater sewer that discharges to one of several surface water outfalls.

Air: The potential for release is moderate because the unit is located outdoors. During the VSI, old product drums were stored with open bungs, but no odors were noted.

On-site soils: The past potential for release was moderate because no berm was constructed to prevent spills from reaching soils on the east and north sides of the unit.

Recommendations: PRC recommends constructing a barrier between this unit and the stormwater sewer. PRC recommends removing empty drums currently stored at this unit. PRC recommends that empty drums be stored with closed bungs. PRC recommends collecting surface soil samples around the east and north sides of the unit to determine if a release of hazardous constituents has occurred.

SWMU 4

Satellite Accumulation Areas

Conclusions: This unit is maintained indoors on concrete or metal floors, with no floor drains located nearby. The drums and funnels, if any, are stored closed. The drums are in good condition. No releases from this unit have been documented. The potential for release to all environmental media is low because the unit is maintained indoors.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 5 Paint Sludge Pits

Conclusions: This unit is located outdoors and is used to manage nonhazardous paint sludge. The unit is constructed of concrete and is well maintained. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 6 Former Sludge Tank

Conclusions: This former unit was located in the basement of the plant building. Between 1966 and 1982 this unit was part of the air filtering system and was used to accumulate nonhazardous paint sludge. This unit was replaced by the Paint Sludge Pits (SWMU 5). No releases from this unit have been documented. The potential for release to all environmental media is low because the unit no longer exists.

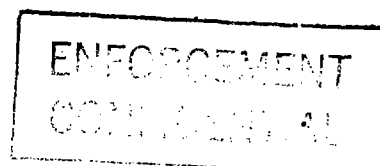
Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 7 Former Sludge Dumpster

Conclusions: This unit was a plastic-lined dumpster located near the Former Sludge Tank (SWMU 6). This unit stored nonhazardous paint sludge generated in the Former Sludge Tank (SWMU 6). No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

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DATE 9/15/95
RIN # 639-99
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ENFORCEMENT
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This unit was located outdoors to accumulate and store nonhazardous solids from facility wastewaters. The unit was constructed of earthen material with clay bottoms. Oil skimmed from this unit was found to contain lead (D008) and chromium (D007). Subsurface soils contaminated with lead (D008) were excavated and disposed of off site during closure of this unit. This unit has been filled in and is now mostly covered by concrete. The potential for release to all environmental media is low.

Recommendations:

PRC recommends no further action for this SWMU at this time.

SWMU 9**Former Lagoon Sludge Storage Area****Conclusions:**

This unit was located north of the Former Lagoons (SWMU 8). This unit was constructed of concrete and managed nonhazardous sludge generated in the Former Lagoons (SWMU 8). No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations:

PRC recommends no further action for this SWMU at this time.

SWMU 10**Spent Purge Solvent Holding Tank****Conclusions:**

This unit is maintained indoors on concrete floors with no floor drains located nearby. This unit accumulates spent purge solvent (D001) prior to storage in the spent purge solvent tank in the Paint and Solvent Tank Farm (SWMU 11). Stains on the floor and along the sides of this unit indicate that it has overflowed in the past. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations:

PRC recommends no further action for this SWMU at this time.

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SWMU 11

Paint and Solvent Waste Tank Farm

Conclusions:

This unit consists of two underground waste storage tanks. This unit was constructed in 1990 and is in good condition. No releases from this unit have been documented. The potential for release to environmental media is summarized below.

Groundwater, surface water, and on-site soils: The potential for release is low because the unit is constructed to contain spills.

Air: The potential for release is moderate because containers of wastes are opened and poured directly into the unit. During this transfer of wastes, fugitive volatile organic emissions are released.

Recommendations:

PRC recommends no further action for this SWMU at this time.

SWMU 12

Former Spent Purge Solvent Tank

Conclusions:

This unit was located southeast of the Paint and Solvent Tank Farm (SWMU 11). This unit was used to store spent purge solvent (D001). Subsurface soil sampling identified low levels of several volatile organic compounds. The facility is currently working with OEPA to develop a corrective action plan for the subsurface soil contamination. The potential for release to environmental media is summarized below.

Groundwater, surface water, and air: The potential for release is low because the unit is no longer active, and the low levels of contamination are confined to subsurface soils.

On-site soils: A release has occurred. The facility is currently developing corrective actions alternatives. The potential for future release is low because the unit has been removed.

ENFORCEMENT
CONFIDENTIAL

Recommendations: PRC recommends the facility continue with closure activities.

SWMU 13 Former Waste Tank Farm

Conclusions: No releases from this unit have been documented. The potential for release to all environmental media is low because this unit no longer exists at the facility. The past potential to on-site soils was moderated because no soils were sampled at the time of closure and no soils were excavated from the backfill area.

Recommendations: PRC recommends collecting subsurface soil samples to determine if a past release of hazardous constituents has occurred.

SWMU 14 Used Oil Tanks

Conclusions: This unit consists of two steel underground storage tanks. This unit manages nonhazardous used oil and has no known release controls. No releases from this unit have been documented. The potential for release to environmental media is summarized below.

Groundwater: The potential for release is low because on-site soils are relatively impermeable, and groundwater is not encountered for over 100 feet.

Surface water and air: The potential for release is low because the unit is maintained underground and has a concrete pad over it.

On-site soils: The potential for release is moderate because the tanks were installed in 1958 and are not pressure-checked or tested for leaks on a regular basis.

Recommendations: PRC recommends developing a program to determine if the tanks have leaked.

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ENFORCEMENT
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SWMU 15 Wastewater Treatment Plant

Conclusions: This unit began operations in 1984 and is well maintained. It treats nonhazardous soaps, boiler blowdown, spent phosphate wash, and drum rinsate. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 16 Oil and Water Separator

Conclusions: This unit is maintained indoors on concrete floors with no floor drains nearby. This unit manages nonhazardous used oil. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 17 Filter Cake Dumpster

Conclusions: This unit is maintained indoors on concrete floors with no floor drains nearby. This unit manages nonhazardous filter cake generated in the facility's WWTP (SWMU 15). No releases from this unit have been documented. The potential for release to all environmental media is low.

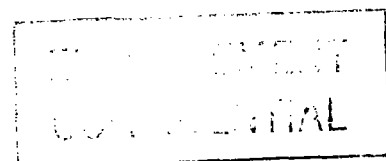
Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 18 Outfall Interceptor Tanks

Conclusions: This unit consists of three underground storage tanks located nearby NPDES-permitted outfalls. The tanks have been operating since 1958 and receive waters from some facility floor drains. No releases from these tanks have been documented. The potential for release to environmental media is summarized below.

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DATE 9/15/95
RIN # 639-99
INITIALS Kf

62



Groundwater: The potential for release is low because on-site soils are relatively impermeable, and groundwater is not encountered for over 100 feet.

Surface water: The potential for release is moderate because the tanks are located at surface water outfalls. If the unit overfills or fails, used oil would be released directly to surface water bodies.

Air: The potential for release is low because the unit is maintained underground and manages nonhazardous used oil.

On-site soils: The potential for release is moderate because the tanks were installed in 1958 and are not checked for leaks.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 19 Flyash Silo

Conclusions: This unit was used to accumulate and store flyash generated from the boilers of the facility's powerhouse. The powerhouse ceased operations in September 1993. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 20 PCB Drum Storage Area

Conclusions: This unit is a locked, enclosed cage used to store PCB wastes occasionally generated from upgrading the lighting. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

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DATE 9/15/95
RIN # 634-99
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DATE 9/15/95
RIN # 639-99
INITIALS KJ

TABLE 4
SWMU SUMMARY

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<u>SWMU</u>	<u>Dates of Operation</u>	<u>Evidence of Release</u>	<u>Recommended Further Action</u>
1. Drum Storage Area No. 1	Early 1980s - present	Visually contaminated soil in 1985; strong solvent odors detected during VSI	Collect surface and subsurface soil samples
2. Drum Storage Area No. 2	Early 1980s - present	None	None
3. Drum Storage Area No. 3	1958 - present	None	Construct barrier between unit and stormwater sewer; remove empty drums; store drums closed; collect soil samples
4. Satellite Accumulation Areas	1985 - present	None	None
5. Paint Sludge Pits	1982 - present	None	None
6. Former Sludge Tank	1966 - 1982	None	None
7. Former Sludge Dumpster	1966 - 1982	None	None
8. Former Lagoons	1958 - 1985	Lead-contaminated subsurface soils removed in 1985	None
9. Former Lagoon Sludge Storage Area	1958 - 1985	None	None
10. Spent Purge Solvent Holding Tank	1981 - present	None	None

RELEASED
DATE _____
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TABLE 4 (Continued)

SWMU SUMMARY

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<u>SWMU</u>	<u>Dates of Operation</u>	<u>Evidence of Release</u>	<u>Recommended Further Action</u>
11. Paint and Solvent Waste Tank Farm	1990 - present	None	None
12. Former Spent Purge Solvent Tank	1968 - 1988	Volatile organic compounds identified in subsurface soils in 1992	Continue with closure activities
13. Former Waste Tank Farm	1958 - 1989	None	Collect subsurface soil samples
14. Used Oil Tanks	1971 - present	None	Develop leak-testing program
15. Wastewater Treatment Plant	1971 - present	None	None
16. Oil and Water Separator	1984 - present	None	None
17. Filter Cake Dumpster	1984 - present	None	None
18. Outfall Interceptor Tanks	1973 - present	None	None
19. Flyash Silo	1958 - 1993	None	None
20. PCB Drum Storage Area	Mid-1980s - present	None	None

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DATE 9/15/95
RIN # 639-99
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APPENDIX A
VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS
(15 Pages)

VISUAL SITE INSPECTION SUMMARY

**Ford Motor Company, Lorain Assembly Plant
5401 Baumhart Road
Lorain, Ohio 44053
OHD 004 227 815**

Date: August 19, 1993

Primary Facility Representative: Clyde Dennis, Environmental Engineer

Representative Telephone No.: (216) 282-0724

Additional Facility Representatives: Jim Lucas, Manufacturing Planning Manager
Jim Gibson, Supervisor, Environmental Control and Planning
Kathy Waskiewicz, Principal Staff Engineer, Environmental Quality Office

Inspection Team: Jeff Swano, PRC Environmental Management, Inc. (PRC)
Nick Nigro, PRC

Photographer: Nick Nigro, PRC

Weather Conditions: Sunny, calm, about 80 °F, humid

Summary of Activities: The visual site inspection (VSI) began at 8:25 a.m. with an introductory meeting. The inspection team explained the purpose of the VSI and the agenda for the visit. Facility representatives then discussed the facility's past and current operations, solid wastes generated, and release history. Facility representatives provided the inspection team with copies of requested documents.

The VSI tour began at 1:00 p.m. inside the main facility building with an inspection of most of the Satellite Accumulation Areas (SWMU 4). The inspection team observed the trim lines for passenger and commercial vehicles. Next, the inspection team observed the paint booth where most of the purge solvent is used. At this paint booth water circulated under the grated floor, which is connected to the Paint Sludge Pits (SWMU 5). The inspection team then toured the paint kitchen and observed the Spent Purge Solvent Holding Tank (SWMU 10).

The inspection team proceeded outdoors to observe the area where the Former Lagoons (SWMU 8) and Former Lagoon Sludge Storage Area (SWMU 9) were located. The inspection team then toured the Wastewater Treatment Plant (SWMU 15)

and observed the Oil and Water Separator (SWMU 16), the Filter Cake Dumpster (SWMU 17), and the Used Oil Tanks (SWMU 14). Next, the inspection team walked around Drum Storage Area No. 3 (SWMU 3), the Former Waste Tank Farm (SWMU 13), the Paint and Solvent Waste Tank Farm (SWMU 11), the Former Spent Purge Solvent Tank (SWMU 12), and Drum Storage Area No. 1 (SWMU 1). Near Drum Storage Area No. 1 (SWMU 1), the inspection team observed where the facility applies herbicides. The inspection team then observed the operation of the Paint Sludge Pits (SWMU 5). The team then walked around Drum Storage Area No. 2 (SWMU 2), and the PCB Drum Storage Area (SWMU 20) and observed the drum rinsing area. The inspection team went back inside the main facility building and toured the maintenance shop and then back to the meeting room to conclude the VSI.

The tour concluded at 4:40 p.m., after which the inspection team held an exit meeting with facility representatives. The VSI was completed and the inspection team left the facility at 5:30 p.m.



Photograph No. 1
Orientation: North

Location: SWMUs 1 and 12
Date: 08/19/93

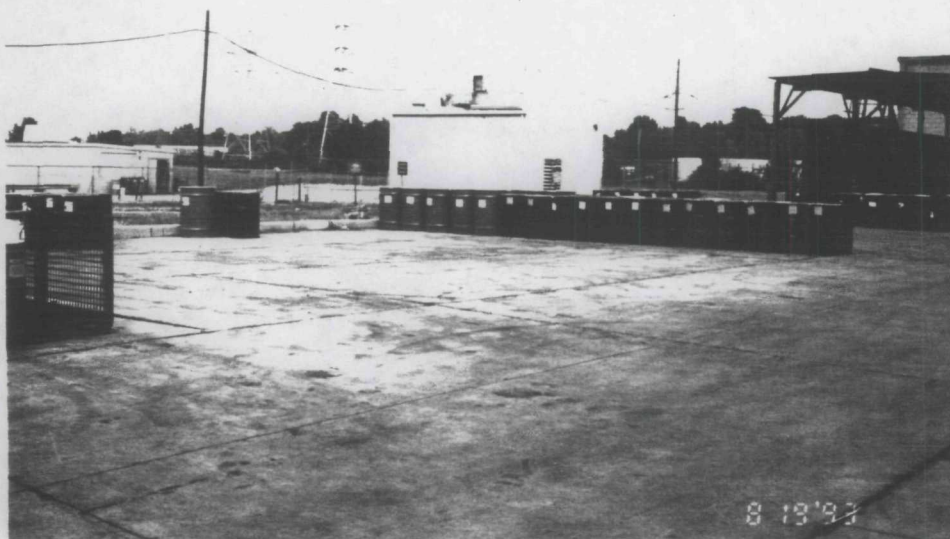
Description: Drum Storage Area No. 1 (SWMU 1) is bounded by yellow curb; Former Spent Purge Solvent Tank (SWMU 12) is located in foreground under concrete.



Photograph No. 2
Orientation: West

Location: SWMU 1
Date: 08/19/93

Description: Close-up of waste stored in Drum Storage Area No. 1



Photograph No. 3

Orientation: Northeast

Description: Drums stored at the west end of Drum Storage Area No. 2

Location: SWMU 2

Date: 08/19/93



Photograph No. 4

Orientation: Northeast

Description: Drums stored at the east end of Drum Storage Area No. 2; drums on pallets contain residuals; brown drums in background contain asbestos.

Location: SWMU 2

Date: 08/19/93



Photograph No. 5

Orientation: East

Location: SWMU 2

Date: 08/19/93

Description: Southeast corner of Drum Storage Area No. 2; blue drums are empty drums being stored prior to reconditioning



Photograph No. 6

Orientation: West

Location: SWMU 3

Date: 08/19/93

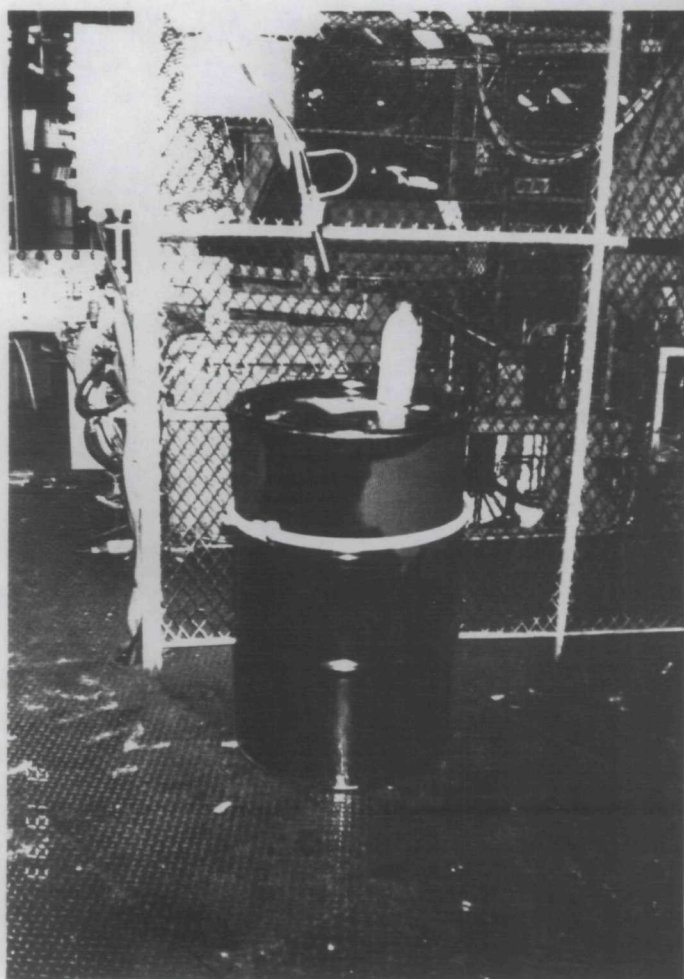
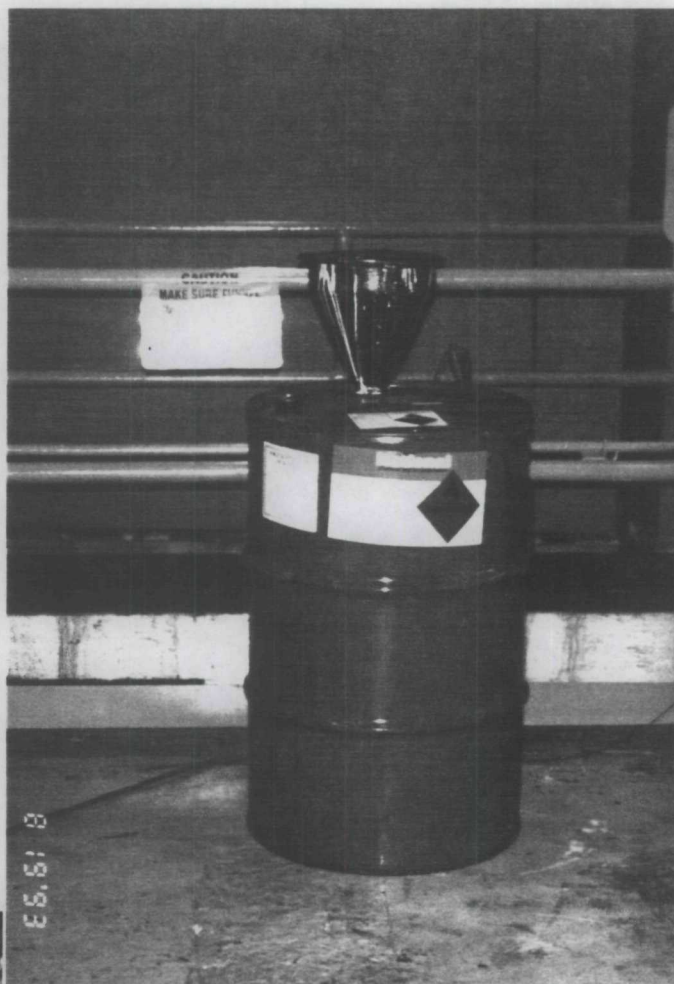
Description: Empty drums stored at Drum Storage Area No. 3; note how concrete pad dips towards building in the background.

Photograph No. 7
 Location: SWMU 4
 Orientation: East
 Date: 08/19/93
 Description: Satellite Accumulation Area
 (SAA) at passenger trim line



Photograph No. 8
 Location: SWMU 4
 Orientation: West
 Date: 08/19/93
 Description: SAA at commercial trim line;
 note light blue stain below the
 unit

Photograph No. 9
Location: SWMU 4
Orientation: South
Date: 08/19/93
Description: SAA near a painting area



Photograph No. 10
Location: SWMU 4
Orientation: Northeast
Date: 08/19/93
Description: SAA near windshield trim line;
floor is metal.



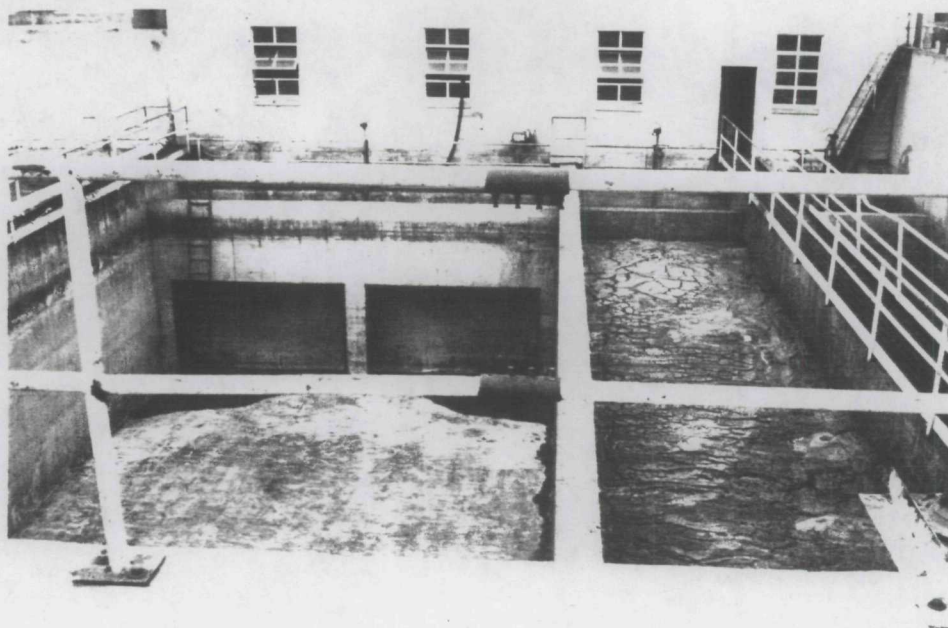
Photograph No. 11

Orientation: East

Description: The drum on the right is SAA in the paint kitchen.

Location: SWMU 4

Date: 08/19/93



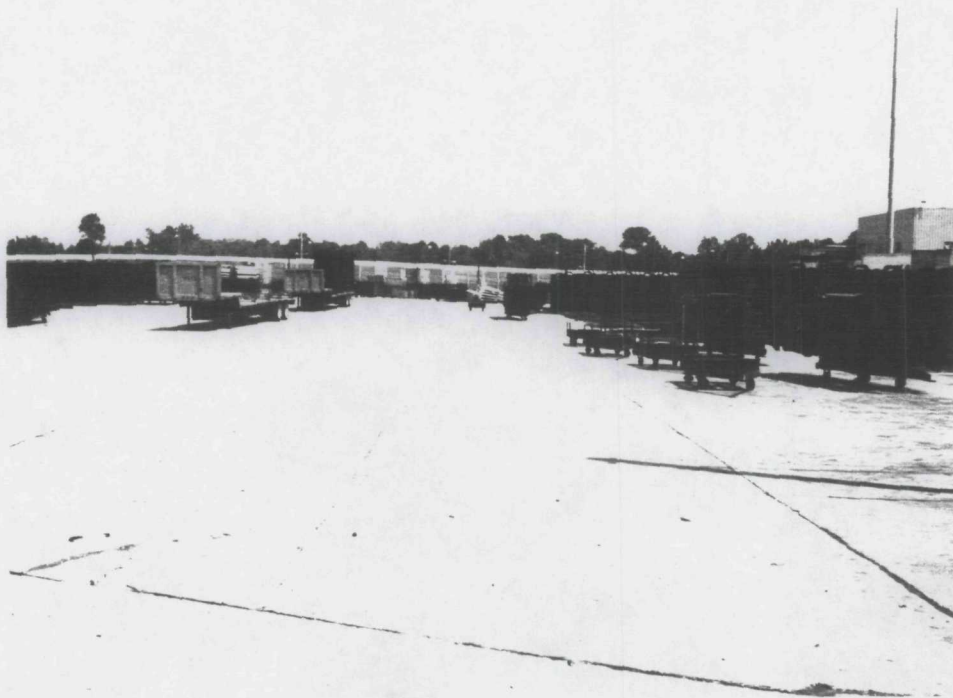
Photograph No. 12

Orientation: East

Description: Paint Sludge Pits; the one on the right is active, receiving primer paint; the empty one on the left will be used for enamel paint.

Location: SWMU 5

Date: 08/19/93



Photograph No. 13

Orientation: East

Description: The Former Lagoons extended from the foreground to the railroad line in the background.

Location: SWMU 8

Date: 08/19/93



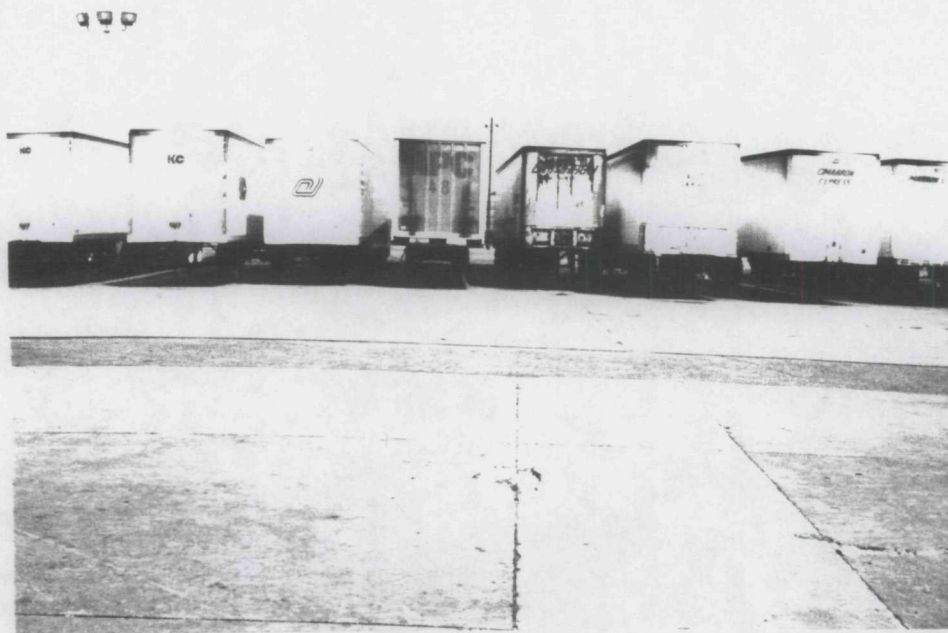
Photograph No. 14

Orientation: Northeast

Description: Approximate location of western-most Former Lagoon

Location: SWMU 8

Date: 08/19/93



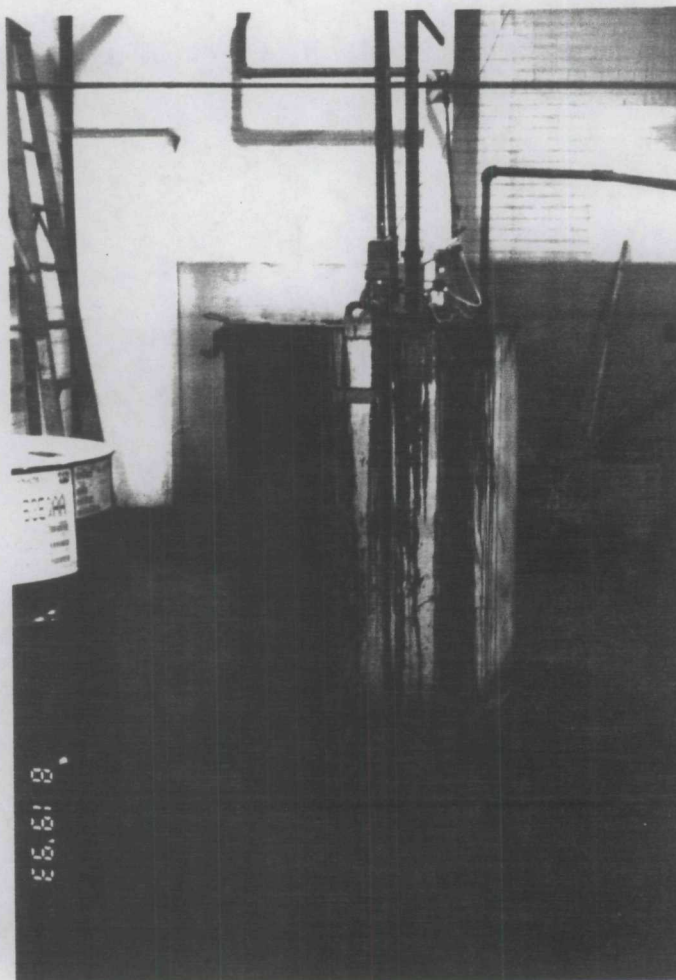
Photograph No. 15

Orientation: East

Description: Southwest half of the Former Lagoon Sludge Storage Area

Location: SWMU 9

Date: 08/19/93



Photograph No. 16

Location: SWMU 10

Orientation: West

Date: 08/19/93

Description: Note stains visible on the side of the Spent Purge Solvent Holding Tank



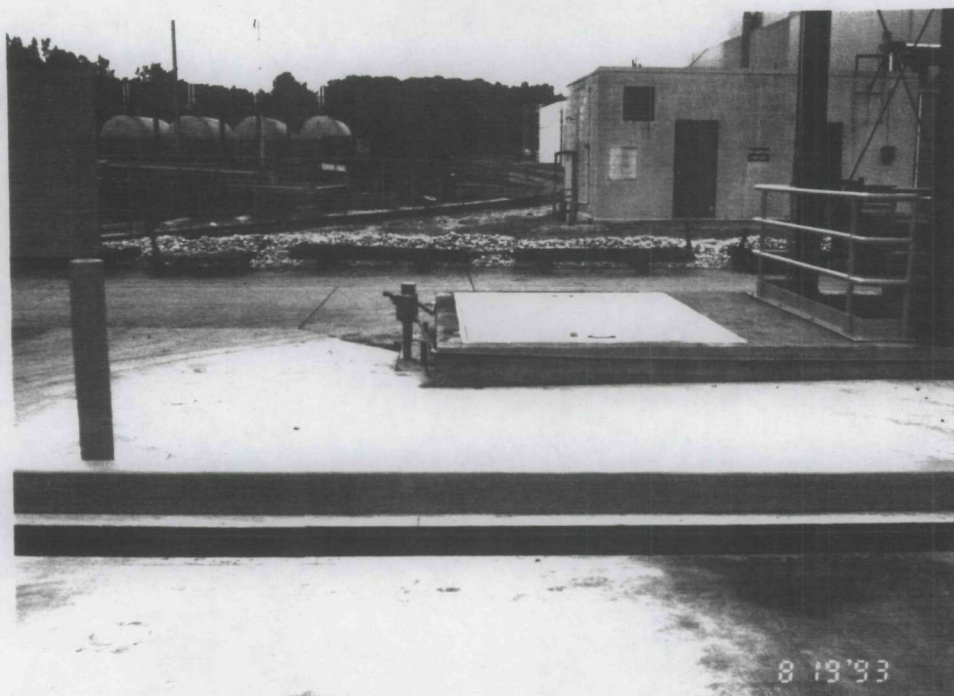
Photograph No. 17

Orientation: South

Description: Paint and Solvent Waste Tank Farm in good condition with appropriate signs

Location: SWMU 11

Date: 08/19/93



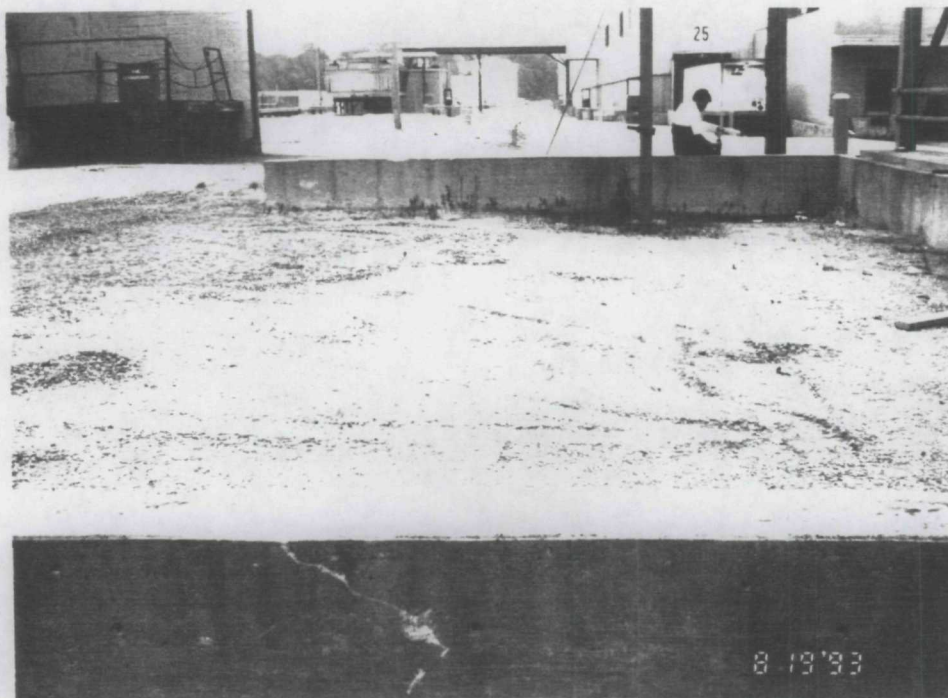
Photograph No. 18

Orientation: South

Description: The Former Spent Purge Solvent Tank is located underneath the concrete on the other side of the yellow curb in the foreground.

Location: SWMU 12

Date: 08/19/93



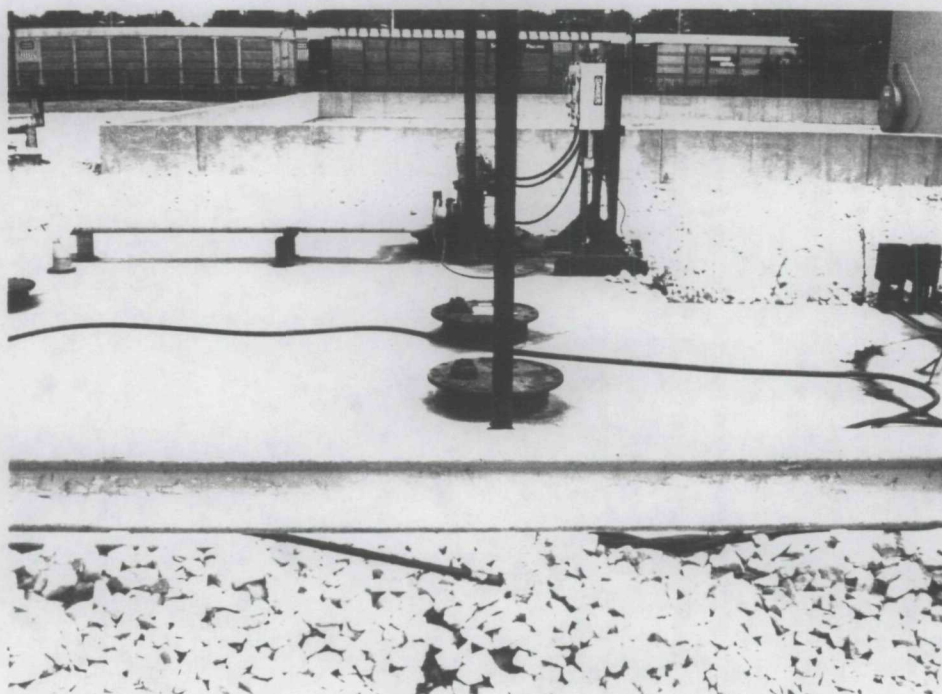
Photograph No. 19

Orientation: East

Description: Former Waste Tank Farm was located within the bermed concrete area

Location: SWMU 13

Date: 08/19/93



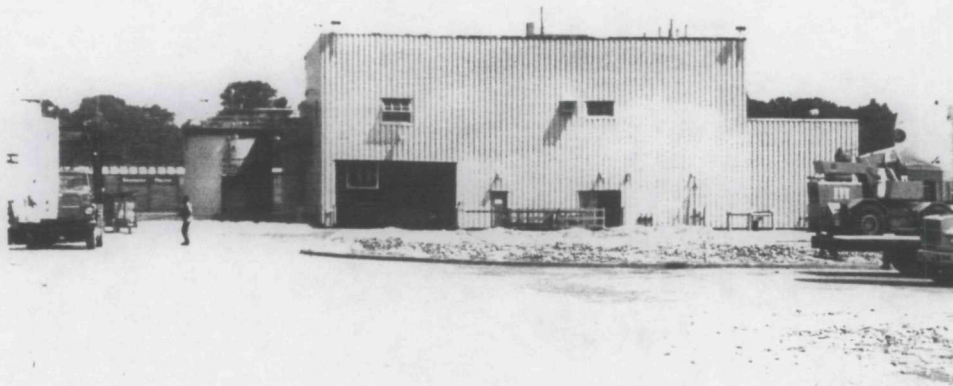
Photograph No. 20

Orientation: East

Description: The Used Oil Tanks are located beneath the concrete pad

Location: SWMU 14

Date: 08/19/93



Photograph No. 21
 Orientation: East
 Description: The Wastewater Treatment Plant

Location: SWMU 15
 Date: 08/19/93

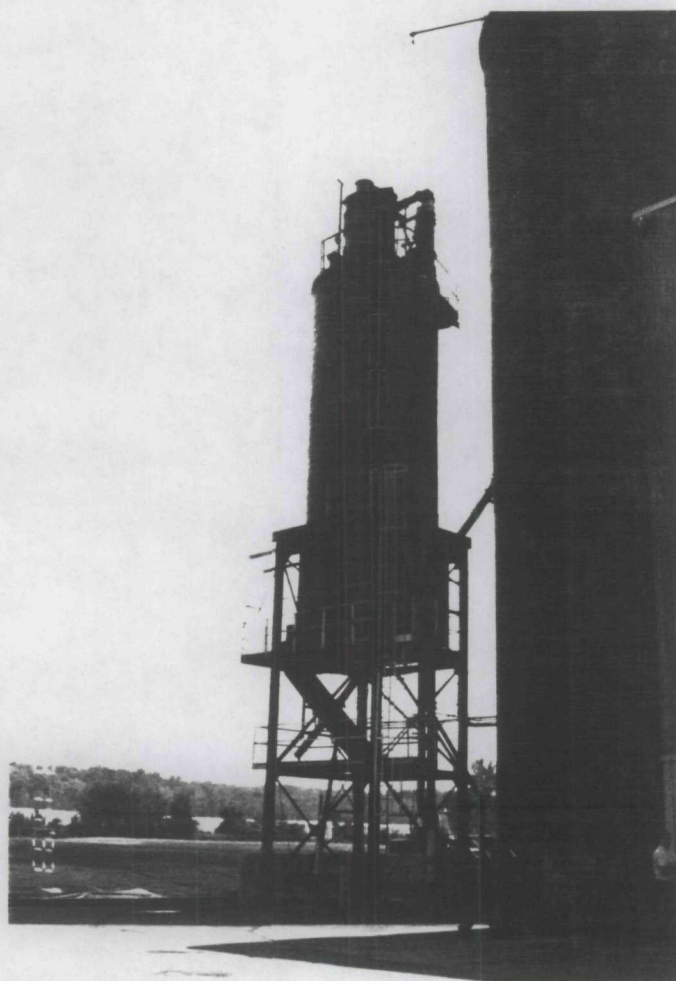


Photograph No. 22
 Location: SWMU 16
 Orientation: Northeast
 Date: 08/19/93
 Description: Oil and Water Separator



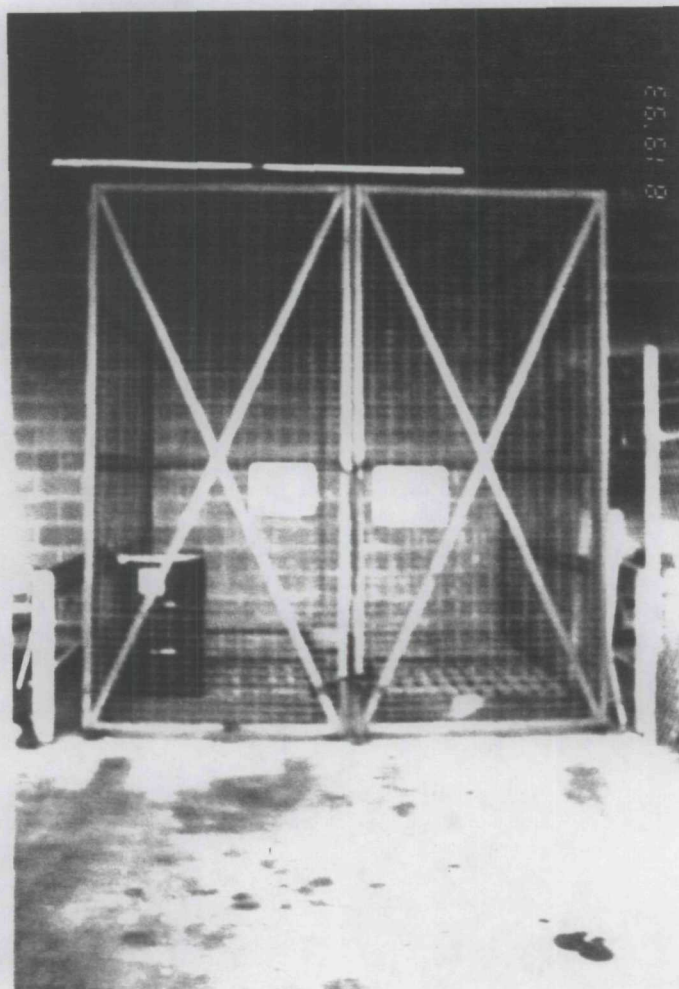
Photograph No. 23
 Orientation: Northeast
 Description: Plastic-lined Filter Cake Dumpster beneath the filter press

Location: SWMU 17
 Date: 08/19/93



Photograph No. 24
 Location: SWMU 19
 Orientation: Southeast
 Date: 08/19/93
 Description: Flyash Silo

Photograph No. 25
Location: SWMU 20
Orientation: East
Date: 08/19/93
Description: PCB Drum Storage Area is
located in the red cage



APPENDIX B
VISUAL SITE INSPECTION FIELD NOTES
(25 Pages)

Thursday August 11, 1943

Ford Lorain Assembly Plant
PA/USI

Arrive at site: 0800

Sign in + call Clyde.

Left a message that we
are in visitor lobby.

Sunny, 80°F, muggy.

Clyde Comes + gets us at
0815. We meet in an
office with other reps.

Interview begins at
0825

8/19/93

Prop

Add

Tele

This
50%
ant
proof

(2)

Present at site:

Jeff Swano

PRC

Nick Nigro

PRC

Jim Gibson

Ford

Kathy Waskiewicz

Ford

Clyde Dennis

FORD

Jim Lucas

FORD

Ford Motor Company, Lorain
Assembly Plant.

5401 Baumhart Road

Lorain, OH 44053

2.7 million ft² factory buildings

8/19/93

(3)

About 6 buildings on
212 acres.

Totally enclosed by fence.

Security cameras outside
on the perimeter. Truck gate
is manned. Railroad line
comes into the property
fenced area & has a
swing gate. Security
guards work around the
clock.Ford Motor Company owns
& operates the facility.
Ford is a publicly-held
Corporation.

8/19/93

(11)

~4,000 Employees work here
2 production shifts,
scheduled 8 hours,
high times 10 hours.
Midnight shift is
maintenance crews.

Plant opened in 1958.
Plant was built here
by Ford -- no existing
facility. Thinks it was
open land prior to 1958.
It was an assembly
operation since then.

RCRA STARS LOG

\$ 8/19/93

(12)

Some residences (Farms)
woods + the lake
border the property.
Railroad on east,
west is woods, farms,
some resys. Rt 60 the
lake to north

2 operations: Passenger + Econoline
Materials are brought in by
truck + rail. Body parts.
Econoline AKA "Commercial"
"Passenger" is from the ground
up; "Econoline" body shell
is ~~already~~ painted + assembled; they
just putting in chassis,
interior trim, transmission,
+ electrical.

\$ 8/19/93

(6)

cycles for cars & machinery.

Passenger \Rightarrow body shop
assemblies, painting is
done here + totally
put together.

Paints, sealers, transmission,
fluids, gas, other fluids,
antifreeze, freon. Bulk
tankers bring these in
and put in tanks. Ford
has tried to bring all
USTs to aboveground if
the fire Marshall will
allow it. Some materials
we brought in in drums.

When drums are empty. Rinse
+ drain drums. Empty
drums are labelled "empty"
and dated

~~8/17/93~~

12
And sent to drum pad; and
drained into another drum,
residuals out. Rinsed
out, water to industrial
sewer to the WWTP.
Drums of residuals are
taken to drum storage
area DSA. Clean empty
drums go to ^{Columbus Steel Drum}
Columbus, OH Drum recondition.
There are some SAs if
accumulated slowly. If
accumulates quickly it
is a storage area.

Assembly line describes
the parts assembly.

~~8/19/93~~

⑥

Painting line. Sheetmetal is cleaned with a phosphate wash. Goes into electrocoat priming operation (a big tank, submerge the part into paint that is electrically charged). Goes into an oven process to dry. Goes to a sealing line.

Sealing line seals cavities with a soft sealant (will find out type of sealant later MSDS sheets), oven dry.

Unitized body means it doesn't have a full frame.

\$ 8/19/93

⑦
~~Cleaning operations~~ \$ 8/19/93

Painting operations → Primer coat goes on, to an oven. Color top coat goes on, another oven. That's it.

Assembly. Trim lines → parts goes through assembly process. Glass goes in. Chassis is built up in a robotics area (Kuka). Final line puts on wheels and fluids, final charges. and off the line.

~~\$ 8/19/93~~

(10)

Testing, car wash, +
final inspection concludes
the process.

Cleaning process \Rightarrow
Phosphate wash.

Maintenance shop takes
care of fork lifts, tow
motors, lifts, etc.

Parts washer in this
area. No service runs in.
They put spent fluid into
DSA.

~~\$ 8/19/93~~

(11)

Econoline process \Rightarrow
Begins at trim and
finishes up. Same way.

Foam Booth \Rightarrow Sound deadening +
structural. It is injected into
~~\$ 8/19/93~~ ~~into quarter panels + insom-~~
ment area during passenger
assembly. Goes into SAT.
1 55-gallon every 3-6 months
Solvent based cleaner for
cleaning the guns. Once
full it goes to DSA #1

since 1990
prior to
this was
perfection
1988-1990

ENSCO ~~part~~ in Eldorado Arkansas
Divisions Transport or
Some other carrier takes
wastes off site to ENSCO
McMurray.

~~\$ 8/19/93~~

(12)

Also use Petrochem of Detroit, transports off site using Northrup Transportation Co. or Dairy Bros. for fuel blending. These wastes have been used since form booth operation late 1988. Petro-Chem Processing, Inc.

#2 Touch-up booth. Cleaning painting guns, spray guns, & brushes. 1 55-gallon drum per week, storage area. When full goes to DSA #1 Petrochem pumps out with a vacuum

\$ 8/17/93

(13)

NOTE tank. DSA #1 the drums are pumped out by transporter/disposal. Empty drums go to Rinsing area (see earlier) & go to Columbus.

Drums for non-haz waste have liners & are reused. Liners are accumulated in a 55-gallon drum.

When full they go to Evergreen, in Bedford Heights. This waste began in 1958.

Evergreen Environmental Group, Inc. Been using Evergreen since before 1986. No more info.

\$ 8/17/93

☺
#3 Transmission fluid. 155-
gallon drum every 3 months.
Generated at end of
assembly line. Drips or
if the transmission has
to be emptied to be
worked on to DSA #1
(South end non-haz area)
Evergreen disposes.

#4 Sealer waste (adhesive
#6 urethane) Purge the lines
so it doesn't set up in
the gun. Put in drum.
50-80 55-gallon drums every
3 weeks. DSA #2 also
Segregated by haz +

\$ 8/19/93

(15)
non-haz areas. Evergreen
takes it.

#5 Windshield Sealant → glass
#7 is cleaned before apply
sealant. Goes into SAA
Cans + rips go into
drum. Goes to DSA #2.

Began in 1988. Passenger;
1992 Ecomline. ENSCO
takes wastes, since 1988.
Comes every 60 days for
all ENSCO wastes. 155-
gallon drum every 3 months
is generated.

(I'm getting the idea that Ford's
collective memory ends in 1986)

\$ 8/19/93

(C)
#8 QC Lab building
TEST samples of
fuels. Poured into
55-gallon SAA drum
to DSA #1. 1 55-gallon
drum every 2-4 months.
Generated since 1958.
Petrochem pumps out.
Used since before 1986,
but not much info.
Unknown about how
waste was handled between
1958 and 1985ish.

#9 Similar to #3. About
1-55 gallon drum every
3 to 4 months. DSA #1

~~\$ 8/19/93~~

(.7)
South side, Evergreen
takes it. Generated since
1958.

#10 Similar to #2. 1-55
drum every 2-3 weeks.
to DSA #1. Petrochem
takes it. Generated since
1958. Petrochem since
~1986. No further info. (NFI)

#11. Paint booth used for
painting/touch up of
bigger spots. Spray
paint. Different colors
are used, clean out the
lines + also the guns.

~~\$ 8/19/93~~

(18)

1 55-gal drum every
2-3 weeks. Since 1958.
TO DSA #1. Petrochem
picks up + dispose.

#12 Oil waste \Rightarrow at the
Econoline production
Equipment. Non-haz
because Evergreen has
run TCLP tests. Evergreen
recycles this oil. 1 drum
every 3-4 months.

Equipment began operations
in ~~1970s~~ \$ 8/19/93

into 1961

\$ 8/19/93

(19)

#13 Paint Kitchen \Rightarrow off spec,
out of date, bad batch,
wrong colors. Varies.
Petrochem takes in their
pump truck 4500 gallon.

About 40 drums per wk.
Since 1958. TO DSA #1

14. Maintenance painting.
SAA 1 drum 4-5 mos.
DSA #1. Petrochem since
1958.

#15 Changing oil in machinery
like #12. Forklifts
and other misc. equipment.
2 drums every month. TO

\$ 8/19/93

(20)

DSA #1 Southside
Evergreen recycles.
Since 1958.

(21)

begin mid 70's. to
DSA #2, Evergreen takes
it off.

#16 E-coat sludge \Rightarrow 110,000

gal tank w/ filters +

Solids. During annual
shut down. Sludge at

bottom of tank (~~1000~~) ^{8/19/93}

Drum it (1000 drums/yr.)

DSA #2 ~~1000~~ per
Evergreen who takes it for

#17 disposal. Filters come
out throughout year.

Put into a drum every
2-3 weeks; gets about
10 \rightarrow 15 drums. E-coating

\$ 8/19/93

#18 BFI built in 1991 a

recycling center for
cardboard + pallets +
paper. Materials that
cannot be recycled, goes
into the trash. Any
cash value of recyclables
BFI gets (incentive)

#19

^{Corbolls}
Rags are generated &
used for oil/grease
clean ups. Laundry
service ARATX, Cleveland
Daily.

\$ 8/19/93

W) #20 WWTP gets facility drains
from production areas.
(Sanitary & Some NCWs
go to city sewer system).

Gets Floor clean up by non-
hazardous soaps; The
phosphate cleaning tanks;
Boiler blow down; car
wash (+ waterproof testing),
Processes in batch tanks.

3 tanks. Chemfill provide
treatment chemicals. Ford
Chemical operates. Solids are
filtered out in a separator
and tank system, then
to filter press. Drops

\$ 8/19/93

solids into a 20^{cubic}-yard's
gondola (non-haz).

Truck takes gondola
every week to

Since 1983^{the} Ford Allen Park Clay Mine
LF in Allen Park, MI.

Industrial LF. Since
late 1983. Prior to June 1992
went to Wayne Disposal
Bellville, MI (Industrial
LF). Since 1983.

Batch is 160,000 gallons
Do 4-6 batches per
day. Water discharge
goes to sanitary sewer
for POTW.

\$ 8/19/93

(24)

#21 Paint Sludges → Closed
System in Paint booth.
Down draft. Non-hazardous

by testing. Goes to
Final paints a 350,000 gallon holding
tanks concrete. Primer paints
100,000 gallon concrete
holding tanks. Installation
dates will come later.
1 per year clean out
200 → 300 cubic yards
using vacuum or clam
shell. PPG Chemfill hires

Since 1991 Cousins of Toledo to
transports in covered
dumpster or tanker
to Michigan
Disposal in Bellville, MI

\$ 8/19/93

(25)

for Solidification &
land filling to Allen Park,
MI.

Prior to 1991 ^{transported} disposal _{8/19/93}
by bidder. Includes
CWM (local) and others
but soil taken to
Bellville, MI. Wayne
disposed of
Paint sludge system
installed in 1982.

Prior to this a tank used
a Delparts sludge conveyor
dumped sludge into a
plastic lined dumpster.
Once full, transported to

\$ 8/19/93

(26)

Wayne disposal, Bellville,
MI. Unknown when this
began.

#22 Waste USTs \Rightarrow Two 15,000
gallon tanks. One for
purge solvent \Rightarrow Color
change, connected right
to the tank via above-
ground piping. Deal solvent
sold by Gage Products Co.
~~Inc. Standard~~ \$ 8/19/93
Birmingham, MI.
Also transports out
6000 gallon loads from
this tank for recycling,
every 1.5 months

\$ 8/19/93

(27)

The other tank gets
paints, solvents, line
flushing; Some drums
are dumped directly
into this tank. Also
overflow for purge tank.
Petrochem pumps this
out. Also used for
convenience. ~~1000~~ ¹⁰⁰⁰ gallons every
2-4 weeks.
Double wall steel, fiberglass
coated, w/ interstitial
monitoring. ^{alarms.} installed
M Dec. 1990.
Prior to 1990 are
other USTs that have
been removed & will
be discussed later.

\$ 8/19/93

(28)

#23 Used oil UST by
WWTP gets skimmed
oil. Evergreen pumps
out ever 3 months.
2000 gallons → 4000 gallons.
Recycled.

#24 Flyash is generated at
the powerhouse. Coal-
fired boilers (steam)
mechanical separator
makes a pile; front-
end loader takes to a
silo. Truck is loaded
every ^{month} ~~day~~ ~10 cubic yards
by BFI ^{8/19/93} to their Oberline,
Ohio landfill.

\$ 8/19/93

(29)

End of September 1993
Flyash will end because
boilers will be shut down.

#25 PCB lights have PCBs
in the ballast.

Drums of ballast is
stored in separate area
by DSA #2. Generation
varies 10 → 20 drums
per year. CWM transports
drums off site to their
Emelle, Alabama LF.
Used since 1991. Prior
to this ENSCO took it
for incineration since
1989. NFI prior to 1989,

\$ 8/19/93

(30)

but they had a "proper disposal" program that began in mid 1980s + most likely Evergreen transported + arranged for proper disposal. Prior to mid '80s, if they were disposed of, went into trash.

END OF WASTES

Currently no NPDES.

Drinking + production water is from the city

All storm water goes to

~~8/19/93~~

(31)

facility serves to NPDES outfall 001 in Lake Erie. Sampled 1/month. No wells

Lagoons have been filled in after closure. Now a concrete trailer parking lot

Any UST removed was done w/ Fire Marshall approval. Any impacted soils were disposed of at Wayne Disposal.

~~8/19/93~~

(32)

UST No 30. Levels of
contain are such,
that they want to do
a closure based on
risk-levels. State
will now have to decide
what to do.

Interview ends @ 1238
Break for lunch

Begin walkaround @
1300.

See passenger paint/solvent
waste drum on wheels
w/ basin. Floors o.k. but

\$ 8/19/93

(33)

paint drops nearby
This is because of
down draft in area

Commercial solvent/paint
storage area. Some thin
cracks on floor. Good
labelling. It's pretty
full, ~ 20 gallons per
shelf.

Floors have been sealed
with some coating.
Re sealed in 1985.

Now see passenger & Commercial
Final Repair. DSA
Epoxy floor coating a
little bit worn out.

\$ 8/11/93

(34)

Photo log

Continued roll.

(35)

#	Time	Dir	Subject	#	Time	Dir	Subject
11	1330	E	Passenger solvent paint waste	22	1450	E	filter canister dumper & hopper
12	1334	W	Commercial solvent/paint waste	23	1455	E	T70 + T71 oil UST
13	1340	S	Final Repair	24	1456	NE	oil separator unit.
14	1345	NE	STA of Const + rays can on top is full (#5)	NE	W	ROL	L
15	1420	E	Paint waste area.	1	1458	NE	oil/water separator
Not taken because of flash explosion				2	1505	W	Empty DSA.
warning by the facility,				3	1515	S	Former UST area.
well now its etc.				4	1520	S	new USTs
15	1425	E	Paint waste drum storage.	5	1523	E	T30 tanks
16	1428	W	Purge holding tank	6	1530	N	DSA #1
17	1438	SE	Ash silo.	7	1530	W	Drums in DSA #1
18	1440	E	WWTP	8	1540	E	Paint pit empty ^{5/8/19/91}
19	1440	E	Former lagoon area	↓	↓	↓	primer for water channel is empty
20	1445	NE	Former lagoon sludge	9	1554	NE	DSA 2
21	1447	NE	Former lagoon sludge storage area. 8/1/93	10	1557	NE	Residuals accum. Area.

\$ 8/17/93

\$ 8/19/93

(36)

No cracks or drains.

Go to paint booth. Dumb
draft is strong enough that
painters don't wear
respirators. This

paint booth can change
colors between cars.

So purge occurs after
each car. Purge solvent
is shot into the gun
but it is mostly recovered
and a bit goes into the
water. Paint falls quickly into
the water.

~~8/19/93~~

(37)

We cannot take a picture
because the flash will
set off a deluge system
that is sensitive to
flash/fire. The water is
in a closed circuit.

Booth Control 1800 is added
to the water to detoxify
the paint. Flocculent is
added before water goes
into paint pit so be
sure it settles out
together.

1420 Arrive in Paint Kitchen
Good signage. Well maintained.
Floors are dropped. →

~~8/19/93~~

(38)

There are 3 ~~8/19/93~~
one drum here of
waste.

Paint is in 80 & 250 gallon
tanks. Purge from paint
booth is here (photo #
16). 400 gallon tank steel.

(Purge recovery tanks)

When full (fills 2 times
in 8 hours) The pumps go
on & transfer liquid to
the waste storage tank.

~~8/19/93~~

(39)

NWTP. has a series of
oil water separators.

Uses a belt skimmer.

Oil is either placed into
a drum or directly
into a used oil UST (600 gallon)

The 400 gallon tank is a
separator. Drum goes
to DSA #1 South end.

1505 Find an empty DSA. These
are ^{empty} product drums that
will be ~~8/19/93~~
returned to either mfr. or
distributor. Drums are old,
rusty, not rinsed, bungs
are loose. Concrete
and missing

~~8/19/93~~

(40)

Slopes down towards plant;
and east towards rails.

Some are stacked 5
high on their sides
(photo #2) Xylene
Isopropyl alcohol.

No cracks, but along the
north side of concrete

is bare ground

Approx. 100 drums

This entire drum storage
area also has raw
materials. The concrete
slopes west towards the
facility and a storm
water sewer.

\$ 8/19/93

(41)

South of this DSA is
former UST area.

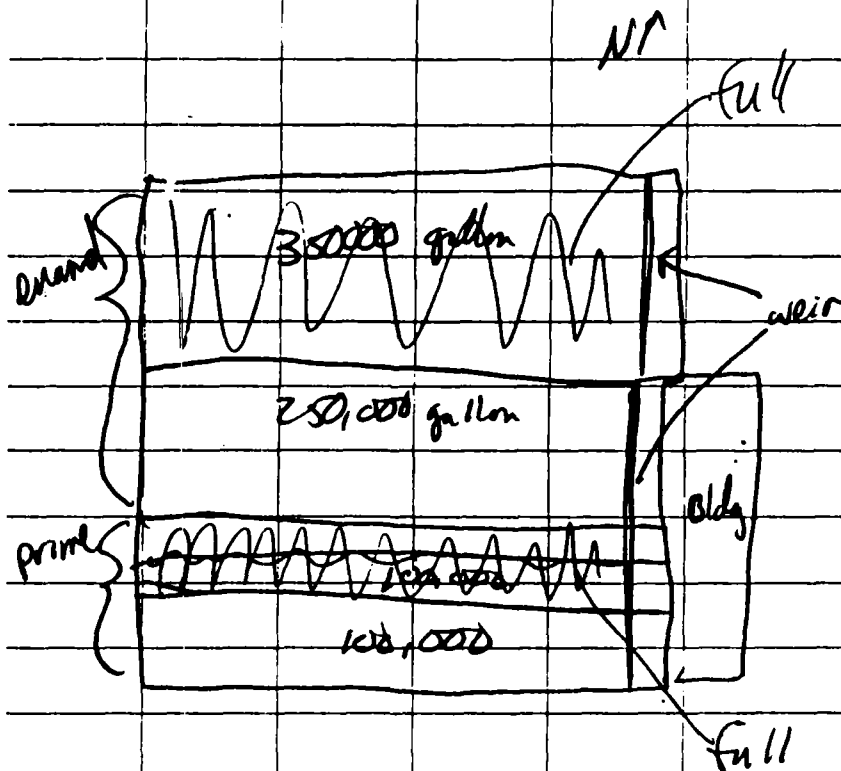
Had 1 Purge solvent tank^{T35}
T15 xylene, T16 overflow
for purge solvent tank,
T17 primer paint storage.

515 New tank farm. Purge
solvent and paint/purge
solvents tanks. Epoxy
coating with secondary
containment 6" curb.
Alarm system audible and
alarms in 24-hour manned
area. Sloped into itself
to contain truck spills.

\$ 8/19/93

(44)

Paint Pit



Concrete

meet Bob Jones of PPG,
Tech Rep.

8/19/93

Industrial DSA #2

Industrial
sewer

Drum
Storage

60

30

non.

2 non

15,000

(45)

Drum resids

Indy
sewer

Bldg

Se 400

Columbus
DSA.

34 drums w/ paint cans in them
4 residual drum storage
Non-liquids stored here

Non-haz & haz waste
9" high berm

former
Gen SR 2
Tent

← N



Drum
case

8/17/93

(46)

Asbestos is generated
when major renovation of
an old steam lines etc.

Contract the work out.

Ford disposes of it.

✓ done on-site.

PCB Storage bin has
one drum in it.

Formerly generated Caustic
wastes. Prior to 1986
it was generated. Clyde
will get more info see
Caustic tank. Drain here
appears to have paint & oil

8/11/93

(47)

Photo Log Contd.

#	Time	Dir	Subject
11	1600	E	Empty DSA Columns
12	1603	E	the PCB Storage
13	1625	SE	M Reel Cage
7-	↓	↘	pu/s

8/14/93

(48)

wastes. This area is
dirty, messy.

Facility maintains 2
parts washers that they
run themselves. Spent
washer (DW) goes into
55 gallon drum and to
DSA #1. Use it for months.

Used oil filters are generated
just began. only 1/8
drum accumulated. Ford
is accepting bids from
S-K & Evergreen to
secure disposal.

\$ 8/19/93

(49)

Walkthrough ends at 1640

Go over the list of things
& information we need.

They have two outfalls; only
one is permitted. See map.
Going to ditches that
discharge to Lake Erie.

During 1984 NPDES permit
filing in September.

State determined that only
one outfall was to be
permitted, for WWTP.

This outfall issue is
unresolved between Ford &
PRC & will be addressed
later. DEPART SITE AT 1730

\$ 8/19/93